

XXX-XXX-XXX

**A COMPREHENSIVE RAPID-ASSESSMENT-OF-  
FLUTTER / EJECTION-LOADS (RAFEL) SOFTWARE  
SYSTEM FOR AIRCRAFT / STORE COMPATIBILITY**

**P.C. CHEN  
E. SULAEMAN  
D.D. LIU**

ZONA Technology, Inc.  
7430 E. Stetson Drive, Ste. 205  
Scottsdale, AZ 85251-3540

JANUARY 2002

**PHASE I FINAL REPORT FOR THE PERIOD APRIL 2001 - JANUARY 2002**

Approved for public release; distribution unlimited

DEPARTMENT OF THE AIR FORCE  
AIR ARMAMENT CENTER  
EGLIN AIR FORCE BASE, FL 32542-6864

20020227 225



REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
<small>Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.</small>				
1. AGENCY USE ONLY (Leave Blank)		2. REPORT DATE 16 JAN 2002		3. REPORT TYPE AND DATES COVERED FINAL 14 APRIL 2001 - 16 JANUARY 2002
4. TITLE AND SUBTITLE A COMPREHENSIVE RAPID-ASSESSMENT-OF- FLUTTER / EJECTION-LOADS (RAFEL) SOFTWARE SYSTEM FOR AIRCRAFT / STORE COMPATIBILITY PHASE I, FINAL REPORT			5. FUNDING NUMBERS C F0863501-C-0049	
6. AUTHOR(S) P. C. Chen, E. Sulaeman, and D. D. Liu, ZONA Technology, Inc.;				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) ZONA Technology, Inc. 7434 E. Stetson Drive, Suite 205 Scottsdale, AZ 85251 Tel 480-945-9988 / Fax 480-945-6588			8. PERFORMING ORGANIZATION REPORT NUMBER  ZONA 02-06	
9. SPONSORING/MONITORING AGENCY(S) AND ADDRESS(ES) Department of The Air Force Air Armament Center 205 West D Ave. Rm. 468 Eglin Air Force Base, FL 32542 - 6864 POC: Major Barron Canty, Tel 850-882-9820 x3212			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT  APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words)  This report documents a design scheme for a rapid assessment of flutter and limit cycle oscillation of aircraft with multiple store configurations. Using the F-16A as a baseline aircraft, three different aeroelastic instability responses, including classical flutter, typical LCO, and non-typical LCO, have been successfully identified. These three distinct responses are representative of the broad spectrum of aeroelastic responses encountered by fighter aircraft with external stores. To rapidly compute the flutter prediction of the aircraft with multiple store configurations, a procedure is proposed to efficiently reuse the aerodynamic influence coefficient (AIC) matrices of aircraft with multiple stores. The procedure used the ZAERO code, that contains a unified aerodynamic module for all Mach numbers, as the basic software system. To discern the difference between the flutter and LCO responses, and to correlate the numerical predictions with the flight altitude, the matched point option of the g-method of ZAERO was used. The influence of the aerodynamic stores on the aeroelastic instability is investigated using a number of aerodynamic models, including the isolated wing-tip launcher model, and the whole aircraft with and without stores. Using a more refined aerodynamic model, the results show good agreement between the present numerical predictions and flight flutter test data, including the oscillation frequency and the onset speed of the three flutter and LCO cases.				
14. SUBJECT TERMS Aircraft/Store Aerodynamic Interference, Unified Aerodynamic Influence Coefficient, Rapid Flutter Solution, Classical Flutter/Typical LCO/Non-typical LCO, Massive Aircraft/Store Configurations, Database Management System, Dynamic Memory Database System			15. NUMBER OF PAGES 142	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF THIS ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT SAR	



## FOREWORD

This Phase I SBIR final technical report entitled "*A Comprehensive Rapid-Assessment-of-Flutter / Ejection-Loads (RAFEL) Software System for Aircraft / Store Compatibility*," has been prepared by ZONA Technology, Inc. (ZONA), under contract number FO 863501-C-0049, sponsored by The Department of The Air Force/Air Armament Center, Eglin Air Force Base, FL 32542. This report presents the findings as of January 16, 2002, from a research and development program begun April 16, 2001.

Mr. Ping-Chih Chen of ZONA was the Principal Investigator, Mr. E. Sulaeman and Dr. D.D. Liu of ZONA were co-principal investigators. Mr. Major Baron Canty and Dr. Charles M. Denegri Jr. of Eglin Air Force Base were the Government Technical Monitor. The author would like to thank Dr. Denegri for providing structural and aerodynamic data and for his valuable comments and suggestions throughout the course of this development.

This report documents the entire work under the Phase I effort. It is published for the dissemination of technical information. The findings and conclusions are those of the authors and do not necessarily represent the views of the United States Government. Distribution of this report shall be in accordance with the Distribution Statement of the Report Documentation page found on the cover hereof.



# TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1 Introduction .....	1
1.1 Background .....	1
1.2 Limit Cycle Oscillation (LCO) of Wing with External Stores .....	2
1.3 Technical Issues and Challenges .....	3
1.4 Overall Design Strategy .....	4
1.5 Required Software Tools .....	5
2 Comprehensive Rapid Assessment of Flutter/Ejection Loads (RAFEL) Software System.....	6
2.1 ZAERO – An Engineer’s Toolkit for Aeroelastic Solutions.....	6
2.2 Application of ZAERO to RAFEL Software System.....	10
2.2.1 Invariant UAIC Submatrices for Store/Aircraft Configurations .....	10
2.2.2 The Total RAFEL Software Architecture.....	11
2.2.3 Store-Aircraft Finite Element Modal Analysis Adopting the MSM System .....	14
2.2.4 Design of a Database for the MSM System.....	14
3 Selected Test Case Data .....	16
3.1 Flight Test Data .....	16
3.2 Overall Computational Strategy .....	19
3.3 Structural Finite Element Data .....	19
3.4 Aerodynamic Model s .....	22
3.5 Steady Transonic Aerodynamic Data .....	23
4 Correlation of the F16A/Store Classical Flutter Predictions with Flight Test Data	29
4.1 Flight Test Result and Previous Numerical Prediction .....	29
4.2 Linear Aerodynamics Approach .....	31
4.3 Nonlinear Aerodynamics Approach .....	40
5 Correlation of the F16A/Store Typical LCO Predictions with Flight Test Data .....	43
5.1 Flight Test Result and Previous Numerical Prediction .....	43
5.2 Linear Aerodynamics Approach .....	44
5.3 Nonlinear Aerodynamics Approach .....	53



6	Correlation of the F16A/Store Non-Typical LCO Predictions with Flight Test Data .....	57
6.1	Flight Test Result and Previous Numerical Prediction .....	57
6.2	Linear Aerodynamics Approach .....	58
6.3	Nonlinear Aerodynamics Approach .....	67
7	Conclusions and Future Work .....	71
	References .....	73
	Appendix A. Structural Finite Element Data for Classical Flutter Case .....	75
	Appendix B. Structural Finite Element Data for Typical LCO Case .....	95
	Appendix C. Structural Finite Element Data for Non-Typical LCO Case.....	122



## ACRONYMS

AIC	Aerodynamic Influence Coefficient
ASE	Aeroservoelasticity
CFD	Computational Fluid Dynamics
CFL3D	High-level computational fluid dynamics code by NASA (Ref 19)
CPU	Computational Processing Unit
DLM	NASTRAN's code to generate steady/unsteady subsonic aerodynamics based on a doublet lattice method.
DMAP	Direct Matrix Abstraction Program
DMS	Data Mining System
FEM	Finite Element Model
GUI	Graphical User Interface
LCO	Limit Cycle Oscillation
MATLAB	Matrix Laboratory (An interactive system and programming language for general scientific and technical computation.)
MSM	Massive Store Management
NASTRAN	Structural FEM software product of MSC



PVM	Parallel Virtual Machine
RAFEL	Rapid Assessment of Flutter / Ejection Load
SDG	Store Database Generator
UAIC	Unified Aerodynamic Influence Coefficient
ZAERO	ZONA's aeroelasticity and unstable aerodynamic software system covering all Mach ranges including ZONA6, ZONA7, ZTAIC and ZONA7U for complex aircraft configuration with external stores (Ref 6-10)
ZDM	ZONA Dynamic Module
ZONA	ZONA Technology, Inc.
ZONA51	ZONA's code implemented in NASTRAN to generate steady/unsteady supersonic aerodynamics for complex aircraft configuration with external stores (Ref 4). Capable to handle only flat type configuration.
ZONA6	ZONA's code to generate steady/unsteady subsonic aerodynamics for complex aircraft configuration with external stores (Ref 6)
ZONA7	ZONA's code to generate steady/unsteady supersonic aerodynamics for complex aircraft configuration with external stores (Ref 7)
ZONA7U	ZONA's code to generate steady/unsteady unified hypersonic and supersonic aerodynamics for wing-body/aircraft configurations with external stores(Ref 8)
ZTAIC	ZONA's Transonic Aerodynamic Influence Coefficient code; Generates unsteady transonic aerodynamics for complex aircraft configuration (Ref 7)



## LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1.1 Typical Flutter Mode and Hump Mode by Flutter Analysis	3
2.1 Six Essential Modules in ZAERO.	7
2.2 AGARD Standard 445.6 Wing.	8
2.3 Lessing Wing in First-Bending Oscillation ( $M=0.9$ , $k=0.13$ , $\eta=0.5 \times$ span).	8
2.4 The Total RAFEL Software Architecture.	12
3.1 Measured Oscillatory Wingtip Response of Flight Test for Classical Flutter Configuration.	17
3.2 Measured Oscillatory Wing Tip Response of Flight Test for the Typical LCO Configuration.	17
3.3 Measured Oscillatory Wing Tip Response of Flight Test for the Non-Typical LCO Configuration.	18
3.4 Finite Element Model of F16A – (a) Classical Flutter Case (b) Typical LCO Case, (c) Non-typical LCO Case.	21
3.5 Aerodynamic Models of F-16/Store	22
3.6a Cp Distribution at $y = 0.347 b$ .	23
3.6b Cp Distribution at $y = 0.453 b$ .	24
3.6c Cp Distribution at $y = 0.564 b$ .	24
3.6d Cp Distribution at $y = 0.642 b$ .	25
3.6e Cp Distribution at $y = 0.694 b$ .	25
3.6f Cp Distribution at $y = 0.75 b$ .	26
3.6g Cp Distribution at $y = 0.801 b$ .	26
3.6h Cp Distribution at $y = 0.849 b$ .	27
3.6i Cp Distribution at $y = 0.899$ .	27



3.6j	Cp Distribution at $y = 0.944$ b.	28
3.6k	Cp Distribution at $y = 0.981$ b.	28
4.1	Aerodynamic Model #1 for the Classical Flutter Case.	29
4.2	Vibration Modes of Aerodynamic Model #1.	31
4.3	The Flutter V-g and V-f plots for Wingtip Launcher only Model at $M = 0.9$ Using the Linear Aerodynamic Approach.	31
4.4	The Flutter Mode Shape at $V_f = 752$ KCAS and $f_f = 9.36$ Hz of the Wing-Tip Launcher Only Model.	32
4.5	Vibration Modes of the Aircraft Model without Underwing Store Model	33
4.6	The Flutter V-g and V-f Plots for the Whole Aircraft Model without Underwing Stores at $M = 0.9$ Using the Linear Aerodynamic Approach	34
4.7	The Flutter Mode Shape of the Aircraft Model Without Underwing Stores.	34
4.8	Vibration Modes of the Aircraft Model with Underwing Stores	35
4.9	The Flutter V-g and V-f plots of the Whole Aircraft Model with Underwing Stores at $M = 0.9$ using the Linear Aerodynamic Approach.	36
4.10	The Flutter Mode Shape of the Whole Aircraft Model with Underwing Stores at $M = 0.9$ .	36
4.11	Correlation between the Flutter Prediction using Linear Aerodynamic Approach (ZONA6/ZONA7) with Flight Test Data.	38
4.12	The Flutter V-g and V-f plots of the Whole Aircraft Model with Underwing Stores at $M = 0.9$ Using The Nonlinear Aerodynamic Approach.	39
4.13	The Flutter Mode Shape of The Whole Aircraft Model with Underwing Stores at $M = 0.9$ Calculated Using The Non-Linear Aerodynamic Method.	40
4.14	Correlation between the Flutter Prediction using Nonlinear Aerodynamic Approach (ZTAIC) and the Flight Test Data.	41
5.1	Aerodynamic Model #1 for the Typical LCO Case.	43
5.2	Vibration Modes of Aerodynamic Model #1.	45
5.3	The Flutter V-g and V-f plots for Wingtip Launcher only Model at $M =$	45



## 0.9 Using the Linear Aerodynamic Approach.

5.4	The Flutter Mode Shape at $V_f = 752$ KCAS and $f_f = 9.36$ Hz of the Wing-Tip Launcher Only Model.	46
5.5	Vibration Modes of the Aircraft Model without Underwing Store Model	47
5.6	The Flutter V-g and V-f Plots for the Whole Aircraft Model without Underwing Stores at $M = 0.9$ Using the Linear Aerodynamic Approach	48
5.7	The Flutter Mode Shape of the Aircraft Model Without Underwing Stores.	48
5.8	Vibration Modes of the Aircraft Model with Underwing Stores	49
5.9	The Flutter V-g and V-f plots of the Whole Aircraft Model with Underwing Stores at $M = 0.9$ using the Linear Aerodynamic Approach.	50
5.10	The Flutter Mode Shape of the Whole Aircraft Model with Underwing Stores at $M = 0.9$ .	50
5.11	Correlation between the Flutter Prediction using Linear Aerodynamic Approach (ZONA6/ZONA7) with Flight Test Data.	52
5.12	The Flutter V-g and V-f plots of the Whole Aircraft Model with Underwing Stores at $M = 0.9$ Using The Nonlinear Aerodynamic Approach.	53
5.13	The Flutter Mode Shape of The Whole Aircraft Model with Underwing Stores at $M = 0.9$ Calculated Using The Non-Linear Aerodynamic Method.	54
5.14	Correlation between the Flutter Prediction using Nonlinear Aerodynamic Approach (ZTAIC) and the Flight Test Data.	55
6.1	Aerodynamic Model #1 for the Non-Typical LCO Case.	57
6.2	Vibration Modes of Aerodynamic Model #1.	59
6.3	The Flutter V-g and V-f plots for Wingtip Launcher only Model at $M = 0.9$ Using the Linear Aerodynamic Approach.	59
6.4	The Flutter Mode Shape at $V_f = 752$ KCAS and $f_f = 9.36$ Hz of the Wing-Tip Launcher Only Model.	60
6.5	Vibration Modes of the Aircraft Model without Underwing Store Model	61
6.6	The Flutter V-g and V-f Plots for the Whole Aircraft Model without	62



## Underwing Stores at $M = 0.9$ Using the Linear Aerodynamic Approach

6.7	The Flutter Mode Shape of the Aircraft Model Without Underwing Stores.	62
6.8	Vibration Modes of the Aircraft Model with Underwing Stores	63
6.9	The Flutter V-g and V-f plots of the Whole Aircraft Model with Underwing Stores at $M = 0.9$ using the Linear Aerodynamic Approach.	64
6.10	The Flutter Mode Shape of the Whole Aircraft Model with Underwing Stores at $M = 0.9$ .	64
6.11	Correlation between the Flutter Prediction using Linear Aerodynamic Approach (ZONA6/ZONA7) with Flight Test Data.	66
6.12	The Flutter V-g and V-f plots of the Whole Aircraft Model with Underwing Stores at $M = 0.9$ Using The Nonlinear Aerodynamic Approach.	67
6.13	The Flutter Mode Shape of The Whole Aircraft Model with Underwing Stores at $M = 0.9$ Calculated Using The Non-Linear Aerodynamic Method.	68
6.14	Correlation between the Flutter Prediction using Nonlinear Aerodynamic Approach (ZTAIC) and the Flight Test Data.	69



## LIST OF TABLES

<u>Table</u>	<u>Page</u>
1.1 F-16A Store Configurations.	2
3.1 Store Configurations.	16
3.2 Store Mass Properties (Taken from Reference 1).	18
3.3 Store Attachment Reference Points (Taken from Reference 1)	19
3.4 Natural Frequencies of F-16A (with Rigid Body Modes).	20
4.1 Flutter Results Using Linear Aerodynamics at $M = 0.9$ .	30
4.2 Critical Speed and Frequency Using the Linear Aerodynamic Approach (ZONA6/ZONA7)	37
4.3 Critical speed and Frequency Using the Nonlinear Aerodynamic Approach (ZTAIC).	42
5.1 Flutter Results Using Linear Aerodynamics at $M = 0.9$ .	44
5.2 Critical Speed and Frequency Using the Linear Aerodynamic Approach (ZONA6/ZONA7)	51
5.3 Critical speed and Frequency Using the Nonlinear Aerodynamic Approach (ZTAIC).	56
6.1 Flutter Results Using Linear Aerodynamics at $M = 0.9$ .	58
6.2 Critical Speed and Frequency Using the Linear Aerodynamic Approach (ZONA6/ZONA7)	65
6.3 Critical speed and Frequency Using the Nonlinear Aerodynamic Approach (ZTAIC).	70



# SECTION 1

## INTRODUCTION

This final technical report describes the work performed by ZONA Technology, Inc. (ZONA) under an SBIR Phase I contract FO8635-01-C-0049, entitled "*A Comprehensive Rapid-Assessment-of-Flutter/ Ejection-Loads (RAFEL) Software System for Aircraft /Store Compatibility*".

The overall Phase I technical objective is to develop an accurate and computationally efficient software system for the aeroelastic solutions of massive number of aircraft/store configurations.

The F16 is selected as a baseline aircraft with the following specific objectives:

1. Investigate the accuracy of ZONA's Aeroelastic Software System (ZAERO) to predict aeroelastic instability of the F-16 aircraft with multiple stores for subsonic, transonic and supersonic Mach number.
2. Investigate the capability of ZAERO to differentiate various types of aircraft/store aeroelastic instability behavior including classical flutter, typical limit cycle oscillation (LCO) and non-typical LCO.
3. Validate the accuracy of ZAERO aeroelastic system with the flight test data of three proposed F-16/store configurations (Table 1.1).
4. Using ZAERO as the basic software system, design a *Massive Store Management (MSM)* system that can substantially increase the computational efficiency of ZAERO.

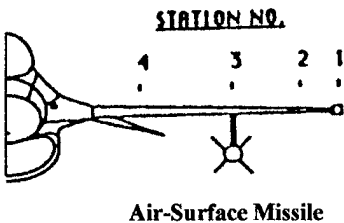
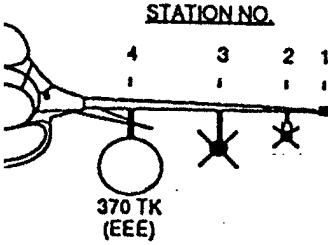
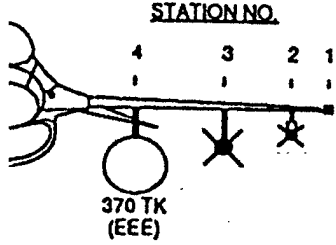
In this Phase I effort, we have accomplished the following:

- Performed aeroelastic instability computation using ZAERO for a number of F-16 aircraft in subsonic, transonic and supersonic flight regimes and at various altitudes.
- Investigated the influence of various store aerodynamic models including underwing/tip launchers, weapons and fuel tank aerodynamic model to the aeroelastic behavior of the whole aircraft/store configurations.
- Investigated the influence of aircraft rigid body modes to the aeroelastic instability of various aircraft/stores configurations.
- Investigated the capability of linear and nonlinear unsteady aerodynamic procedures of ZAERO to differentiate various aeroelastic instability behavior including classical flutter, typical limit cycle oscillation (LCO) and non-typical LCO of F-16 aircraft with multiple stores.
- Investigated the correlation between the flight test data of the three proposed F-16/store configurations and the aeroelastic response computed using ZAERO.
- Designed the Massive Store Management (MSM) system as a platform to the rapid aeroelastic prediction (RAFEL) scheme based on the ZAERO aeroelastic system for the assessment of flutter/LCO of massive aircraft/store configurations.



To validate the accuracy of the present procedure, three configurations of F-16A Block 15 given in Reference 1 are selected and shown in the following Table.

**Table 1.1 F-16A Store Configurations.**

Sta. No.	Aeroelastic Response Type		
	Case 1 Classical Flutter	Case 2 Typical LCO	Case 3 Non-typical LCO
1	LAU-129/A launcher	LAU-129/A launcher	16S210 launcher
2	Empty Station	LAU-129/A launcher AIM-9L missile	LAU-129/A launcher AIM-9L missile
3	Launcher/pylon Air-surface missile	Launcher/pylon Air-surface missile	Launcher/pylon AIM-120A missile
4	Empty Station	Pylon 370-gal fuel tank (empty)	Pylon 370-gal fuel tank (empty)
Front View			

## 1.1 Background

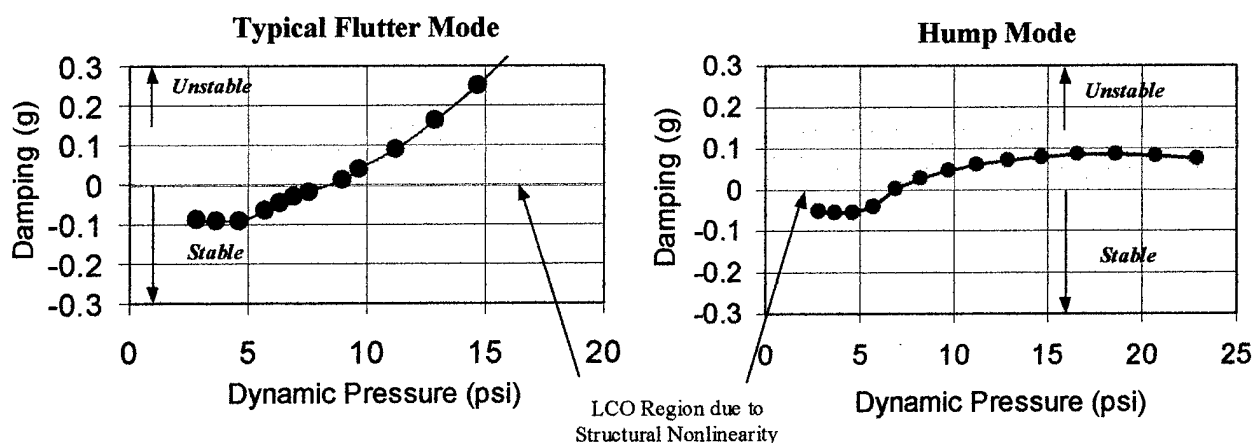
Flutter clearance of a modern fighter aircraft with massive store/weapon configuration is a major engineering task in aircraft/store weapon compatibility. This task requires expedient and yet accurate solutions in a short-time framed demanded by rapid military responses when facing today's ever-changing international situation. Since there can be more than 400,000 store/weapon combinations for a typical fighter aircraft, the flutter clearance for such configuration requires not only the solution accuracy but also computational efficiency to rapidly identify the critical cases. The procedure is needed also to identify a wide variety of aeroelastic response characteristics including flutter, divergence and limit cycle oscillation.

## 1.2 Limit Cycle Oscillation (LCO) of Wing with External Stores

Limit Cycle Oscillation (LCO) has been a persistent problem on several current fighter aircrafts and is generally encountered with external store configurations. Denegri (Ref 2) provided a detailed description of the aircraft/store LCO phenomenon. Norton (Ref 3) gave an excellent overview of LCO of fighter aircraft carrying external stores and its sensitivity to store carriage configuration and mass properties.



LCO can be characterized as sustained periodic oscillations which neither increase nor decrease in amplitude over time for a given flight condition. Using a refined aerodynamic model of the aircraft and stores, ZONA (Chen, Sarhaddi and Liu – Ref 4) has shown that wing/store LCO is a post-flutter phenomenon whenever the flutter mode contains low unstable damping. This type of flutter mode is called “hump mode”. Since the aircraft structure usually contains structural nonlinearity such as friction damping, this amplitude-dependent friction damping can stop the growth of amplitude (due to flutter), thus the structural system would result in steady-state oscillation. This is known as LCO. By contrast, a typical flutter mode is a result of growth of amplitude largely due to destabilizing negative aerodynamic damping, hence a drastic increase in damping beyond the neutral stability point, or the flutter point ( $g = 0$ ). A typical flutter mode and hump mode are shown in Figure 1.1.



**Figure 1.1 Typical Flutter Mode and Hump Mode by Flutter Analysis**

Admitting nonlinear friction damping, Denegri (Ref 5) also showed consistent trends that hump mode can be used to correlate the flutter solutions with LCO flight test data of F-16's. Since the structural characteristic varies for different aircraft/store configurations, it is unlikely that the fixed-gain type of control system would work for wing/store LCO suppression in general. It appears that an adaptive controller with an online system identification process would be most appropriate for LCO suppression of a wide range of aircraft/store configurations.

### 1.3 Technical Issues and Challenges

Rapid assessment of flutter/LCO of aircraft with multiple stores presents challenging problems to be resolved. Several pertinent technical issues are addressed as follows.

- *Solution Accuracy Including Algorithm Robustness, Modeling Fidelity, and Extended Flight Regimes*

Current engineering analysis enjoys sufficient accuracy provided by the structural finite element (FEM) methodology. But a compatible level of accuracy provided by unsteady



aerodynamics for flutter/ejection loads is lacking. This calls for an unsteady aerodynamic method that can deal with complex configurations such as a whole aircraft with external stores in all flight regimes including subsonic, transonic and supersonic Mach numbers, and with sufficient solution accuracy.

- *Computational Efficiency for Massive Store/Aircraft Combinations*

CFD has become an accurate tool for aerodynamic analysis/design. Recognized by experienced aeroelasticians, however, unsteady CFD is far from being an efficient tool for aircraft aeroelastic analysis, let alone for the massive store/aircraft aeroelastic requirement. Using the CFL3D code (Ref 2), ZONA's recent study shows that it requires 4 days of computing time to complete a transonic LCO study on a 1 GHz computer of a two-dimensional (2-D) airfoil (Ref 3). The requirement to process 2000 flutter configurations in two weeks is a stringent one. Since unsteady CFD is out of the question, one resorts to the well-practiced unsteady-aerodynamics computational procedure called AIC (Aerodynamic Influence Coefficient) matrix. The merit of AIC matrix is that it will provide the corresponding unsteady aerodynamics (in frequency domain) to a fixed aerodynamic configuration, but can couple with alternative structural arrangements. The AIC, and hence the unsteady aerodynamics, is computed once and for all and can be re-used for repetitive aeroelastic computations. For slightly different aerodynamic configurations such as the same aircraft with different stores, only a small subset (sub-matrix) of the AIC matrix needs to be regenerated.

- *Rapid Selection for Critical Flutter, LCO and Ejection Loads*

This calls for an automated *data mining system* that can search for and identify the critical flutter, LCO and ejection loads through the data set generated by massive flutter/ejection load analyses. In addition, this data mining system must be able to recognize an LCO case from the flutter-solution cases, to identify the severity of the flutter instability, to compute the sensitivity of the flutter/LCO to the change of flight speed, and to provide recommendations regarding the need of additional flight test to confirm the software predictions.

#### **1.4. Overall Design Strategy**

It appears that the newly released ZAERO aeroelastic software system is a viable methodology to answer all the above technical challenges. ZAERO is a comprehensive aeroelastic software system which contains over a dozen modules for arbitrary aircraft configurations with complex store/weapon combination. Application of ZAERO for the rapid assessment of the aircraft/store aeroelastic instability can be constructed based on the following two parts:

- *The off-line analysis.* In this stage, the most time consuming computation of the unsteady aerodynamic and structural finite element data base of the aircraft/store are generated. Only the portion invariant to the changes in the store configuration is generated. For a typical flutter calculation of the aircraft/store, the invariant portion of the aerodynamic data base can be as large as 95% ~ 99% of the total aerodynamic data required. This off-line analysis stage



can be performed independent of any store configuration. The generation of the database in the off line analysis clearly will reduce the computational time significantly.

- *The on-line analysis.* In this stage only small portion of the calculation is needed to generate the aerodynamic data associated with the variation of the store configurations.

### **1.5 Required Software Tools**

Two engineering disciplines in terms of software tools are employed for the present study, namely MSC/NASTRAN and ZAERO. MSC/NASTRAN is used to perform the structural finite element (FEM) analysis and to generate the generalized mass and stiffness matrices as well as mode shapes of the aircraft structure. ZAERO is ZONA's commercialized aeroelastic software system that integrates the essential disciplines required by aeroelastic and aeroservoelastic design/analysis.



## SECTION 2

### COMPREHENSIVE RAPID-ASSESSMENT-OF- FLUTTER/EJECTION-LOADS (RAFEL) SOFTWARE SYSTEM

The RAFEL software system consists of three sub-systems: an invariant unified aerodynamic influence coefficient (UAIC) submatrix generation system, a Massive Store Management (MSM) system, and a data mining system. The core of the RAFEL system is the ZAERO aeroelastic system which is used as a tool to generate the AIC matrix and solve the aeroelastic system of equations. A detailed description of ZAERO is presented first in the next section, followed by the application of ZAERO in the RAFEL system.

#### 2.1 ZAERO – An Engineer's Toolkit for Aeroelastic Solutions

ZAERO is ZONA's aeroelastic software system that integrates the essential disciplines required by aeroelastic and aeroservoelastic design/analysis (Ref 17). Figure 2.1 illustrates six essential modules in ZAERO that consist of five engineering modules namely the Unified AIC (UAIC), 3-D spline, flutter, aeroservoelasticity (ASE) and transient loads modules and a memory and database management system called the ZDM module.

The functionality of the ZDM (ZONA Dynamic Memory and Database Management System) module is equivalent to the DMAP/GINO system of MSC/NASTRAN. The entire ZAERO program architecture is developed based on the ZDM module that controls the input/output data entities of all engineering modules. The ZDM module will also serve as a basic database system for the development of the proposed massive-store management system. Throughout the years, all of the ZAERO modules have been continuously validated by many test cases ranging from the verification with exact solutions for simple geometries to the comparison with experimental or CFD data for complex configurations. The main features of these five modules now follow.

##### The UAIC Module

The UAIC module shown in Figure 2.1 consists of four unsteady aerodynamic methods, namely ZONA6, ZTAIC, ZONA7 and ZONA7U, which jointly provide a Unified Aerodynamic Influence Coefficient (UAIC) matrix covering all Mach numbers for complex aircraft/store configurations. By contrast, MSC/NASTRAN contains only the DLM method for subsonic flows and the ZONA51 method for supersonic flow and can only handle flat-plate type configurations. Note that ZONA51 method (Ref 4) in MSC/NASTRAN is a ZONA software product for supersonic lifting surface unsteady aerodynamics that has been integrated into the aeroelastic option of MSC/NASTRAN since 1990. Today, ZONA51 has become the industrial standard method for supersonic lifting surface unsteady aerodynamics with over 120 users worldwide. The features of these four unsteady aerodynamic methods in the UAIC module are:

- ZONA6 (Ref 5): generates steady/unsteady subsonic aerodynamics for wing-body/aircraft configurations with external stores/nacelles including body wake effects.
- ZTAIC (Ref 6): generates unsteady transonic (modal) AIC's using externally-provided steady mean pressures.



- ZONA7 (Ref 7): generates steady/unsteady supersonic aerodynamics for wing-body/aircraft configurations with external stores/nacelles (formerly ZONA51 for lifting surfaces).
- ZONA7U (Ref 8): generates steady/unsteady unified hypersonic and supersonic aerodynamics for wing-body/aircraft configurations with external stores/nacelles.

Among these four methods, the transonic code ZTAIC is capable of predicting the “*transonic dip*” associated with flutter boundary of fighters. While using steady pressure input (provided by measurements or a CFD Navier-Stokes Solver), the ZTAIC method solves the transonic small disturbance equation for unsteady aerodynamics. Unlike typical CFD methods, ZTAIC does not require grid generation. Because of the accurate steady pressure input, the correct unsteady shock location and strength computed by ZTAIC are ensured. This can be seen by the excellent correlation between ZTAIC prediction and wind tunnel test data of the AGARD 445.6 transonic flutter boundary (Figure 2.2) and the unsteady pressure distribution of the oscillating Lessing wing (Figure 2.3).

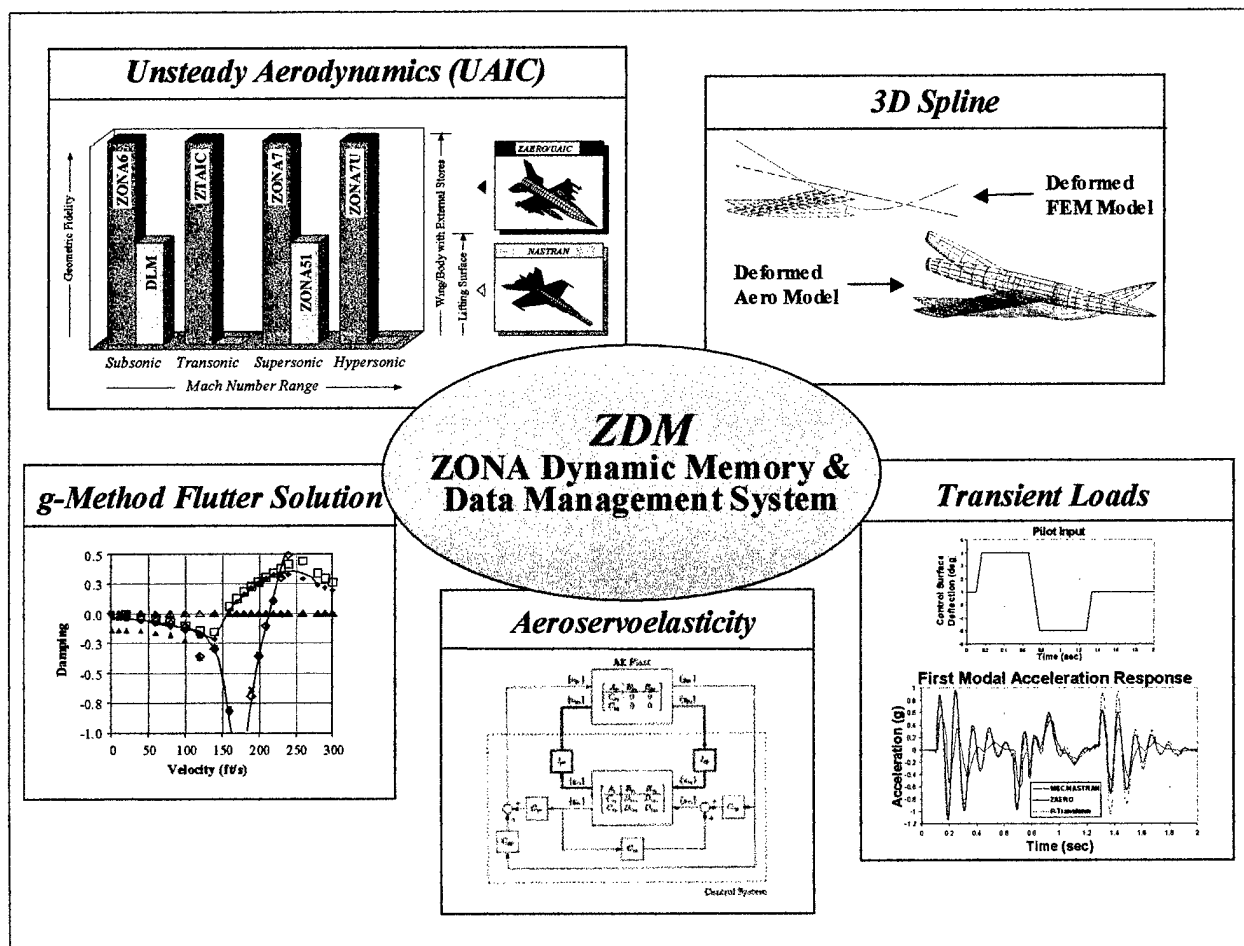


Figure 2.1 Six Essential Modules in ZAERO.



As discussed earlier, due to the pure-aerodynamic characteristics of the AIC matrix, the UAIC matrices generated by the UAIC module can repeatedly be used when changes in different structural properties or slightly different aerodynamic configurations are needed in aeroelastic analysis/design. This renders ZAERO a computationally efficient tool for massive flutter analysis.

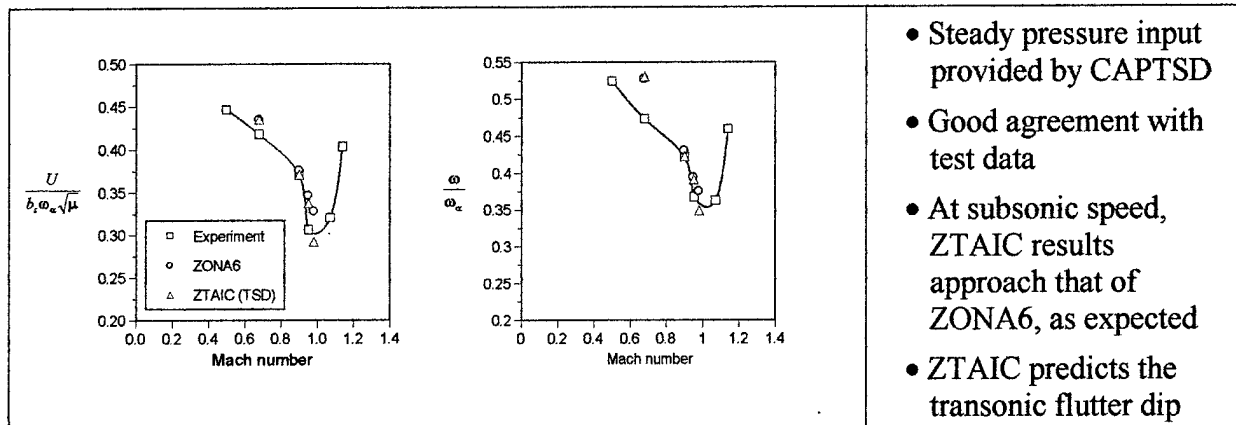


Figure 2.2 AGARD Standard 445.6 Wing.

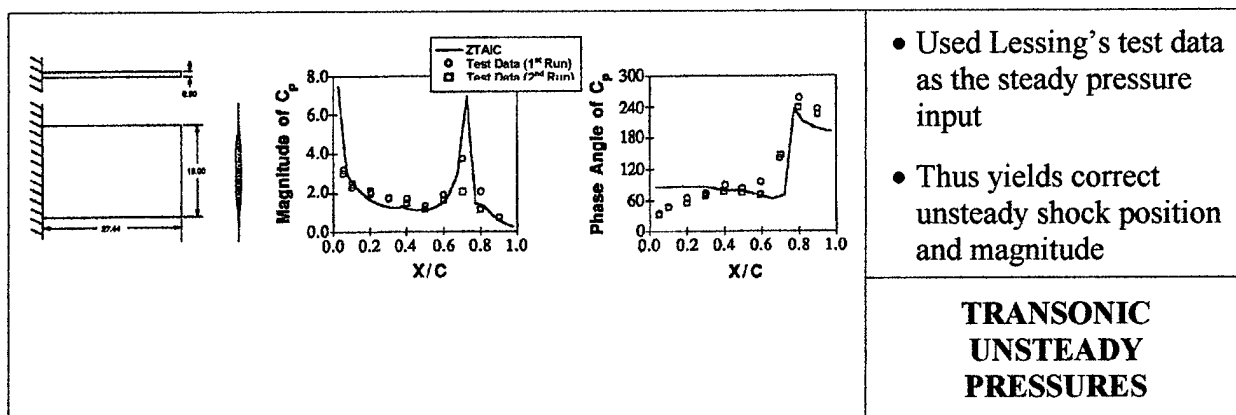


Figure 2.3 Lessing Wing in First-Bending Oscillation ( $M=0.9$ ,  $k=0.13$ ,  $\eta=0.5 \times \text{span}$ ).

### The 3-D Spline Module

For low fidelity unsteady aerodynamic methods like DLM, the Infinite Plate Spline (IPS, Ref 9) is sufficient for the transfer of data between the structural and aerodynamic models. To perform the data transfer for high fidelity modeling of an entire aircraft/store configuration requires a 3-D spline capability. The 3-D spline module of ZAERO is equipped with an improved 3-D Thin Plate Spline (TPS, Ref 10) method that provides the displacements and loads in six degrees of freedom at each structural and aerodynamic grid point. The 3-D spline module can also be used to generate a deformed aerodynamic model to verify the spline input by graphical visualization. A typical graphical display of a deformed wing-body configuration is shown in the 3-D spline module diagram of Figure 2.1.



## The Flutter Module/g-Method

The flutter module consists of two flutter solution techniques; *the K-method* and *the g-method*. The g-method is a ZONA's newly developed flutter solution method (Ref 11) that generalizes the K-method and the P-K method for true damping prediction. The g-method is superior to the P-K method by the following merits.

- *True Damping Prediction*

The theoretical foundation of the true-damping prediction capability of the g-method is based on the inclusion of a first-order aerodynamic damping term in the flutter equation that is rigorously derived from the Laplace domain aerodynamics. Such a true-damping prediction capability is lacking in the K-method and P-K method.

- *Solution Robustness: the g-Method*

The g-method utilizes a reduced frequency sweep technique to search for the roots of the flutter equation and a predictor-corrector scheme to ensure the robustness of the sweep technique. The P-K method typically requires an iterative procedure for flutter solutions and occasionally suffers from a solution breakdown. By contrast, the g-method's sweep technique is proven to be efficient and robust and can obtain an unlimited number of aerodynamic lag roots. The inclusion of aerodynamic lag roots can provide important physical insight of the flutter solutions.

- *Match-Point Flutter Solutions*

The generalized formulation of the g-method (as opposed to the K-method and the P-K method) provides an automated matching feature of the flutter solution that satisfies the Mach number-velocity-density relations of a given atmospheric table.

Therefore, with the g-method built in, the flutter module in ZAERO can further be developed as an effective *data mining system* to search for critical flutter, LCO and ejection load cases. This is attributable to:

- Its true damping prediction can accurately identify the severity and sensitivity of the flutter instability. With a nonlinear structural damping criteria which will be shown in the later section, the g-method solution can be used to recognize an LCO case from the flutter-solution cases.
- Its match-point flutter solution feature avoids an additional iterative procedure between the densities and velocities which is normally required by a non-match-point flutter solution procedure. Therefore, the match-point flutter solution can be directly correlated with flight test data.
- Its reduced frequency sweep technique can ensure the robustness of an automated data mining system which would not work with an unreliable P-K method.

In addition, the ZAERO/flutter module has an existing capability for rapid flutter solutions of aircraft with different inertial properties (for instance, the fuel weight variations). This capability utilizes a so-called "*mass increment technique*" which perturbs the following flutter equation with incremental mass  $\Delta M$ , i.e.

$$\phi^T (M + \Delta M) \phi \ddot{q} + \phi^T k \phi q = q_\infty Q(ik) q \quad (2.1)$$



where:

$\phi^T M \phi$  and  $\phi^T k \phi$  are the generalized mass and stiffness matrices, respectively, of the baseline aircraft.

$q_\infty Q(ik)$  is the generalized aerodynamic force,  $q$  is the generalized modal coordinate,  $\phi$  is the mode shapes of the baseline aircraft, and

$\Delta M$  is the incremental mass added to (or subtracted from) the baseline aircraft, e.g., increase (or decrease) of fuel in the tank.

The validity of Eq (2.1) lies in the fact that the flutter mode of the aircraft with the incremental mass can be expressed by the mode shapes of the baseline aircraft (without incremental mass) if a sufficient number of modes are used. This also implies that solving Eq (2.1) does not require additional FEM and unsteady aerodynamic analysis because all matrices in Eq (2.1) remain unchanged except  $\Delta M$ , an input parameter.

Some ZAERO users have adopted the mass increment technique to accelerate the massive store screening process by also ignoring underwing store aerodynamics. In this way, a very fast procedure results for flutter solution generation of thousands of store configurations by using only one set of AIC and FEM solutions. This procedure can be used as a preliminary step to compliment the MSM procedure for rapid screening of critical flutter cases. ZONA has implemented this procedure as an option in the RAFEL system.

## 2.2 Application of ZAERO to RAFEL Software System

The RAFEL software system consists of three sub-systems: an invariant unified aerodynamic influence coefficient (UAIC) submatrix generation system, a Massive Store Management (MSM) system and a data mining system.

### 2.2.1 Invariant UAIC Submatrices for Store/Aircraft Configurations

The unified Mach number Aerodynamic Influence Coefficient (UAIC) matrix generated by the ZAERO/UAIC module is a pure aerodynamic entity and is independent of the structural properties. For a given aircraft with multiple stores, this UAIC (at a given Mach number and reduced frequency pair) can be partitioned into five different kinds of submatrices, i.e.

$$[UAIC] = \begin{bmatrix} A_{aa} & A_{s_1a} & \dots & A_{s_i a} \\ A_{as_1} & A_{s_1 s_1} & \dots & A_{s_1 s_i} \\ \vdots & \vdots & \ddots & \vdots \\ A_{as_i} & A_{s_1 s_i} & \dots & A_{s_i s_i} \end{bmatrix} \quad (2.2)$$

$A_{aa}$  is the aircraft-to-aircraft aerodynamic submatrix

$A_{s_i s_i}$  is the  $i^{\text{th}}$  store-to-  $i^{\text{th}}$  store aerodynamic submatrix

$A_{s_i a}$  is the  $i^{\text{th}}$  store-to-aircraft aerodynamic submatrix



$A_{as_i}$  is the aircraft-to-  $i^{\text{th}}$  store aerodynamic submatrix, and  $A_{s_i s_j}$  and  $A_{s_j s_i}$ , where  $i \neq j$ , represents the store-to-store aerodynamic submatrix between each two different stores.

The only submatrices in Eq (2.2) that need to be newly computed are the store-to-store submatrices (shaded areas in Eq 2.2)  $A_{s_i s_j}$  and  $A_{s_j s_i}$ , where  $i \neq j$ . Clearly, the self-influence submatrices  $A_{aa}$  and  $A_{s_i s_i}$  shown above are invariant as long as their own aerodynamic shapes remain the same. For a given type of store designated to a fixed weapon-carriage station, it can be seen that  $A_{s_i a}$  and  $A_{as_i}$  are also invariant since the store-carriage stations with respect to a designated aircraft remain fixed. This implies that the submatrices  $A_{aa}$ ,  $A_{s_i s_i}$ ,  $A_{s_i a}$ , and  $A_{as_i}$  can be pre-computed and saved in a database. For a given new store arrangement, these submatrices need not be re-computed, rather they can be retrieved from the database. In so doing, the computing effort of the total UAIC matrix generation can be substantially reduced. In fact, the proposed Massive Store Management (MSM) software system is constructed according to this proposed procedure which will be discussed in the next section.

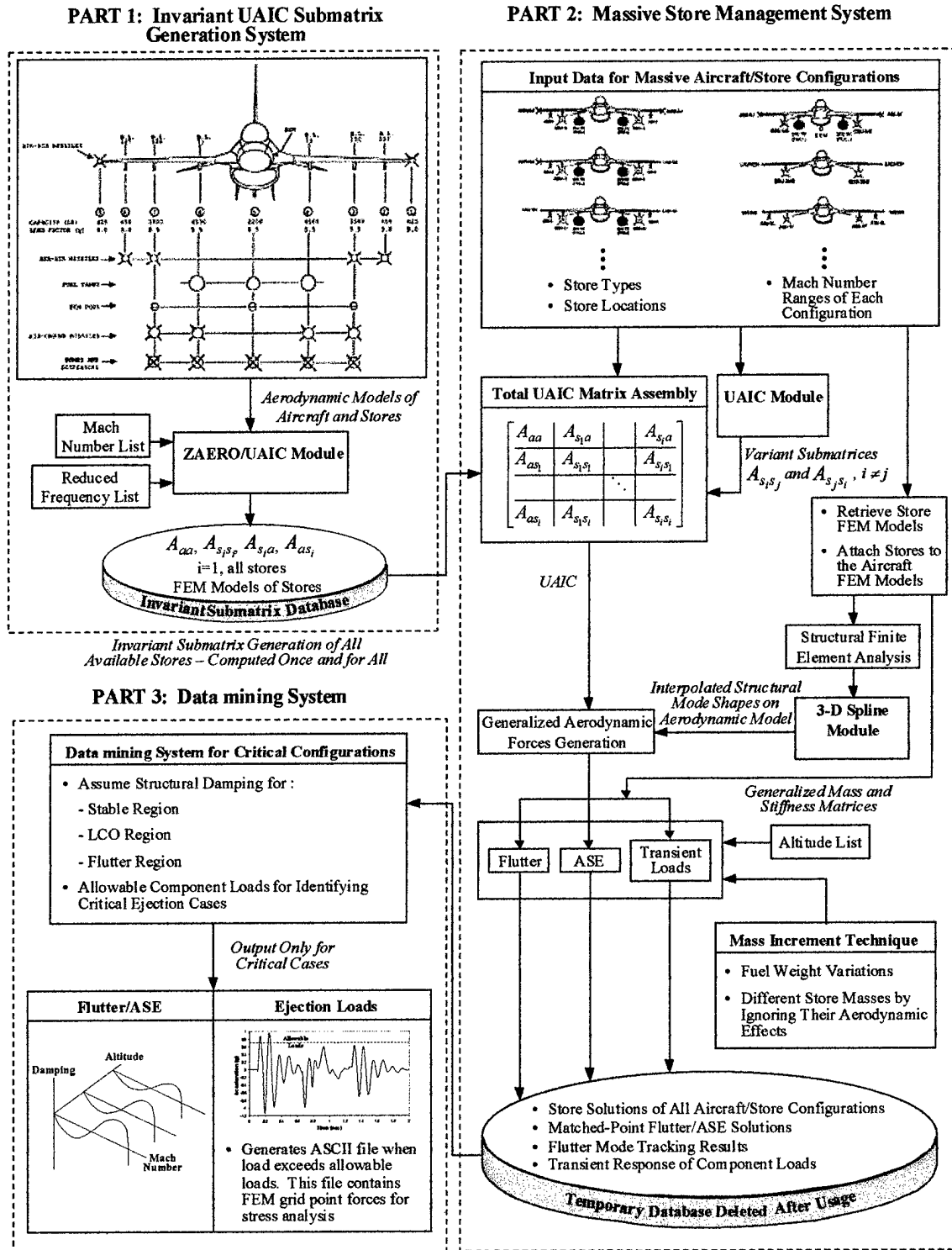
### 2.2.2 The Total RAFEL Software Architecture

Figure 2.4 depicts the total software system architecture for massive flutter, LCO, ejection load analysis and the critical case selection. This software system consists of three subsystems: an invariant UAIC submatrix generation system, a Massive Store Management (MSM) software system, and a data mining system.

#### Invariant UAIC Submatrix Generation System

The functionality of this system is to generate the  $A_{aa}$ ,  $A_{s_i s_i}$ ,  $A_{s_i a}$ , and  $A_{as_i}$  invariant UAIC submatrices, where  $i = 1, \dots, n$ , and  $n$  represents the number of all available stores with their associated weapon-carriage stations. The generation of these invariant submatrices is based on the assumption that the designated aircraft has fixed weapon-carriage stations. For instance, the F-16 aircraft shown in Part 1 of Figure 2.4 has 9 weapon-carriage stations. Every station has a set of candidate stores to be carried.





**Figure 2.4 The Total RAFEL Software Architecture.**

To design the invariant UAIC submatrix generation system, we first provide each store a label called the “*store label*” which marks the store and its designated weapon-carriage station. Note that a different store label is assigned for the same store located at different stations. Next, the



ZAERO/UAIC module is employed to generate the UAIC submatrices  $A_{s_i s_i}$ ,  $A_{s_i a}$  and  $A_{a s_i}$  of all stores and save these submatrices in a database. Because the aircraft-to-aircraft submatrix  $A_{aa}$  is independent of stores, it only needs to be computed once. Note that each of the invariant matrix is also a function of Mach number and reduced frequency. These Mach numbers and reduced frequencies can be pre-selected according to the flight envelope of the designated aircraft and its structural characteristics. Clearly, to generate the above database that contains the invariant submatrices of all stores requires a large computing time. However, since these submatrices are computed once and for all, this long computing time should be considered as off-line data preparation and hence should not influence the efficiency of the subsequent massive store/aircraft aeroelastic analysis. Of course, if a new store is added to the list, its associated submatrices need to be newly computed in this manner and added to the database.

### **Massive Store Management System**

The Massive Store Management (MSM) system is essentially a database management system for the total UAIC matrix assembly. For a given aircraft with multiple store configuration, the MSM system first retrieves the invariant submatrices from the database. Next, it activates the ZAERO/UAIC module to compute all variant submatrices. Finally, it assembles the invariant and variant submatrices together and generates the total UAIC matrix. Once the total UAIC matrix is obtained, the remaining tasks for an aeroelastic analysis are performed by the existing ZAERO engineering modules, as shown in Part 2 of Figure 2.4.

The 3-D spline module reads the output of the structural finite element analysis of the given aircraft/store configuration and computes the interpolated mode shapes on the aerodynamic model. Once these mode shapes and the total UAIC matrix are available, the generalized aerodynamic force matrices can be obtained immediately for an aeroelastic analysis, i.e. flutter, ASE or transient load analysis. This analysis is performed at various altitudes, and the solution at every Mach number and altitude pair is a matched-point solution.

It should be noted that the MSM system is a fully automated process. For a given aircraft/store configuration, the input of the MSM system (e.g., the one shown in Part 2 of Figure 2.4) is the store label of each store and the Mach number range of interest. Since this constitutes a small amount of input, it takes little effort to set up an input file for a massive number of aircraft/store configurations. The MSM system continuously processes each configuration and stores its aeroelastic solutions on a temporary database. Thus, once the MSM system is activated, manual interaction from the engineer is no longer required.

### **Data Mining System**

The main objective of the data mining system is to rapidly screen through the temporary database generated by the MSM system and to select the critical flutter, ASE, or ejection load cases for output display. The inputs of the critical flutter/ASE cases are the assumed structural damping levels that define three stability regions, namely the stable region, the LCO region, and the flutter region. The data mining system screens through all the damping solutions at every Mach number and altitude (M-h) pair for a particular aircraft/store configuration. If the damping



solutions at all M-h pairs are below the stable region, this configuration is classified as non-critical configuration and no output is displayed. If the damping solutions are above the stable region, a three-axis graphical file is generated which can display the damping solutions vs. Mach numbers and altitudes, as the one shown in Part 3 of Figure 2.4. The regions in the graphical display where the damping solutions exceed the LCO region are highlighted. A similar display for the frequency solution is also generated. It should be noted that since all flutter results generated by the g-method and the ASE analysis are matched-point solutions with true damping values, these results can be directly correlated with the flight test data. The time history shown in Part 3 of Figure 2.4 is a typical output in terms of component loads of the ejection load analysis. Again, only those configurations whose transient loads exceed the specified allowable loads are displayed. The corresponding region which exceeds the allowable loads will also be highlighted in the display.

### **2.2.3 Store-Aircraft Finite Element Modal Analysis Adopting the MSM System**

To generate structural finite element models of massive number of aircraft/store configurations is a very time consuming task. However, the massive store management (MSM) system can be adopted to also automatically generate the finite element models. This is very similar to, but simpler than the UAIC matrix assembly process. While saving the UAIC submatrices, the finite element models of each store including the grid locations, connectivity and material properties are also saved on the database. For a given aircraft/store configuration, the MSM system retrieves all the store finite element models from the database and attaches them to the aircraft finite element model, then subsequently launches a finite element analysis. The output of this analysis will be directly imported to the ZAERO/3-D spline module for an aeroelastic analysis.

### **2.2.4 Design of a Database for the MSM System**

The ZAERO/ZDM module (ZONA Dynamic Memory and database management system) will be adopted as the basic database management system for the MSM system. Among many other features, the ZDM has two data entity managers that are especially important to the efficiency of the MSM system.

#### **Matrix Entity Manager**

The matrix entity manager is designed to store and retrieve very large, often sparse, matrices. It minimizes disk storage requirements while allowing algorithms to be developed that can perform matrix operations of virtually unlimited size.

#### **Relational Entity Manager**

Relational entities are essentially tables. Each relation has data stored in rows (called entries) and columns (called attributes). Each attribute is given a descriptive name, a data type, and constraints on the values that the attributes may assume (i.e., integer, real or character data). These definitions are referred to as the schema of the relation.



Clearly, the minimum disk storage capability of the matrix entity manager not only increases the efficiency of saving and retrieving matrices, but also reduces the required disk size of the computer.

The relational entity manager can be used as a file system manager. For instance, the "*store label*" can be defined as an attribute in a relational data entity. The data addresses in the database of the UAIC matrices and the finite element models can be stored in other attributes. Once the relational data entity is established, the data address of each store in the database can rapidly be located and subsequently retrieved by the matrix entity manager.



## SECTION 3

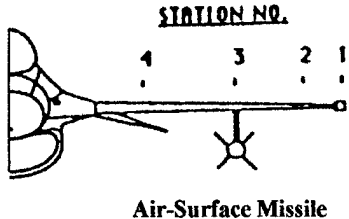
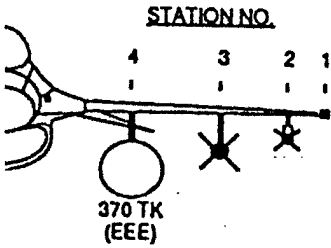
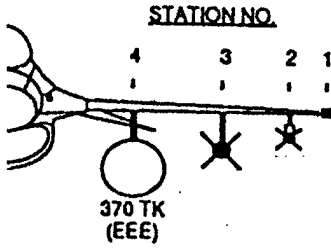
### SELECTED TEST CASE DATA

#### 3.1 Flight Test Data

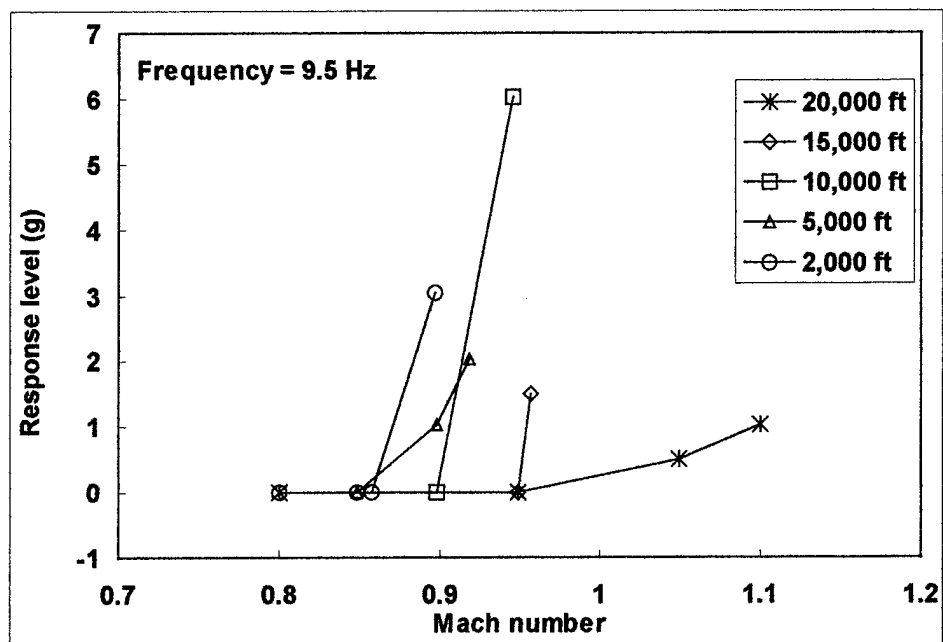
Three F-16 with store configurations adopted from Ref 1 are selected as the test cases of the proposed software system. Reference 1 described that the aircraft is an F-16A, tail number 80-0573. This aircraft is a Block 15 F-16 modified for flutter testing. The store configurations and their associated F-16 weapon-carriage stations are presented in Table 3.1. A more detailed store mass properties and store attachment reference points are given in Tables 3.2 and 3.3. These data are taken from Ref 1 and used in the present work as the basis for modeling the structural finite element data and aerodynamic panel of the three configurations.

According to Ref 1, the three store configurations experienced different aeroelastic instabilities in flight tests; classified by Ref 1 as classical flutter, typical LCO and non-typical LCO. The measured flight test response for these cases are given in Figs 3.1-3.3. These data are also adopted from Ref 1 and used in the present work to correlate the numerical predictions with the flight test data. Because of their distinct aeroelastic instabilities, these three store configurations are the ideal test cases of the present procedure.

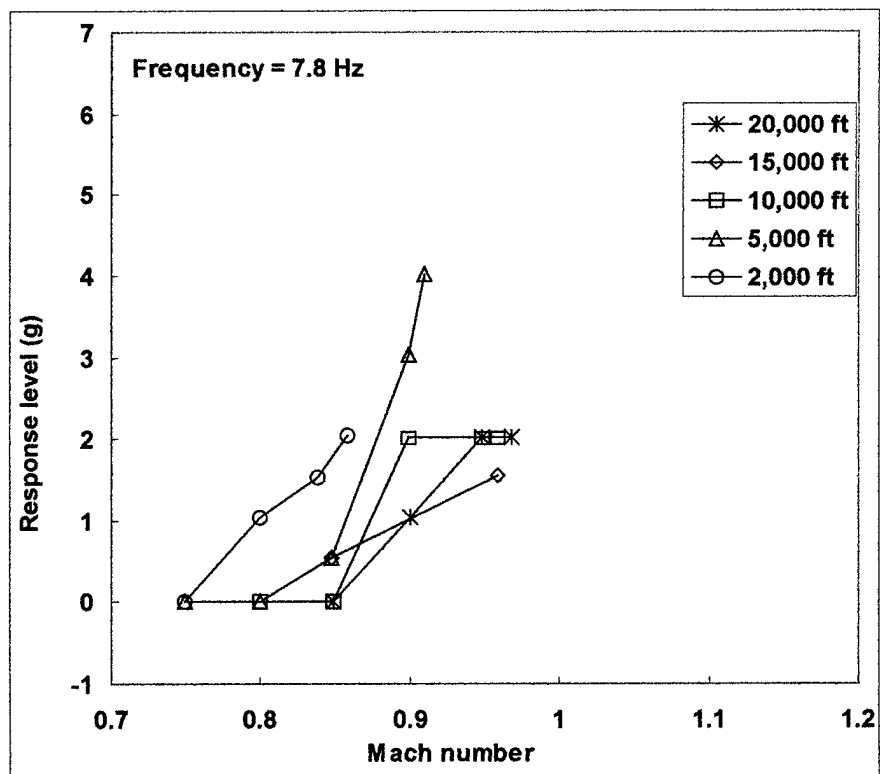
**Table 3.1 Store Configurations.**

Sta. No.	Aeroelastic Response Type		
	Case 1 Classical Flutter	Case 2 Typical LCO	Case 3 Non-typical LCO
1	LAU-129/A launcher	LAU-129/A launcher	16S210 launcher
2	Empty Station	LAU-129/A launcher AIM-9L missile	LAU-129/A launcher AIM-9L missile
3	Launcher/pylon Air-surface missile	Launcher/pylon Air-surface missile	Launcher/pylon AIM-120A missile
4	Empty Station	Pylon 370-gal fuel tank (empty)	Pylon 370-gal fuel tank (empty)
Front View			



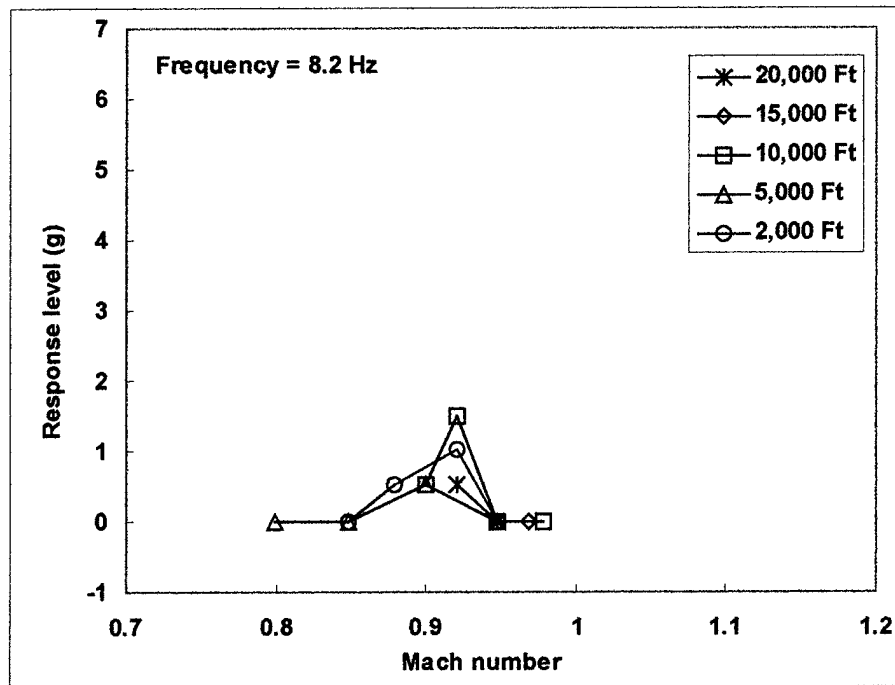


**Figure 3.1 Measured Oscillatory Wingtip Response of Flight Test for Classical Flutter Configuration.**



**Figure 3.2 Measured Oscillatory Wing Tip Response of Flight Test for the Typical LCO Configuration.**





**Figure 3.3 Measured Oscillatory Wing Tip Response of Flight Test for the Non-Typical LCO Configuration.**

**Table 3.2 Store Mass Properties (Taken from Reference 1).**

Store	Weight t (lbs)	Center of Gravity			Moment of Inertia, slug ft <sup>2</sup>		
		x, in	y, in	z, in	Roll	Pitch	Yaw
Air-surface missile	502.0	-14.58	0.00	-25.00	1.76	139.87	140.00
AIM-9L missile	200.0	-21.10	0.00	-17.50	0.42	51.00	51.00
AIM-120 missile	345.0	-14.73	0.00	-25.00	0.65	96.65	96.59
LAU-129/A wing tip launcher	88.0	-13.72	2.88	0.00	-	13.86	13.86
LAU-129/A underwing launcher	88.0	-13.72	0.00	-14.50	-	13.86	13.86
16S210 wingtip launcher	69.0	-15.28	3.60	0.00	-	11.68	11.68
Launcher/Pylon	138.0	-3.60	0.00	-11.00	1.46	14.35	13.55
370-gal fuel tank (empty)	438.5	-8.37	0.00	-18.22	17.12	176.11	165.69



**Table 3.3. Store Attachment Reference Points (Taken from Reference 1)**

Station	Location	Type	x, in	y, in	z, in
1	Wing Tip	Missile	380.46	180	0
2	Underwing	Missile	375.72	157	0
3	Underwing	Weapon	349.67	120	0
4	Underwing	Fuel Tank	325.40	71	0

### 3.2 Overall Computational Strategy

To investigate the influence of store configurations on the aeroelastic instability and, more importantly, to study the differences between the classical flutter, typical LCO and non-typical LCO, a number of aeroelastic instability analysis were conducted in the present work as follows:

- (1) Three structural finite element models of the F16/store as described in Table 3.1 are used.
- (2) For each of the three cases above, three aerodynamic models were used including the wing with tip launcher, the whole aircraft without store, and the whole aircraft with stores.
- (3) Two flutter calculation procedures were conducted using linear and nonlinear unsteady aerodynamic methods.
- (4) The calculations were performed to two structural dynamic models: the structural models with and without rigid body modes.
- (5) The flutter results were presented based on two structural damping assumptions :  $g = 0\%$  and  $g=1.0\%$ .
- (6) To investigate the correlation of the flutter calculations with the flight test data, the flutter results were presented for five altitudes, including sea level, 5 kft, 10 kft, 15 kft, and 20 kft.

### 3.3 Structural Finite Element Data

The structural finite element model for each of the three cases is shown in Fig 3.4. Symmetric modes were not considered in the present analysis since the it was known from the flight test results that the actual instability were anti-symmetric. However, the computational codes, including MSC/NASTRAN and ZAERO, are applicable to a more general case, *i.e.* symmetric, anti-symmetric and asymmetric configurations.

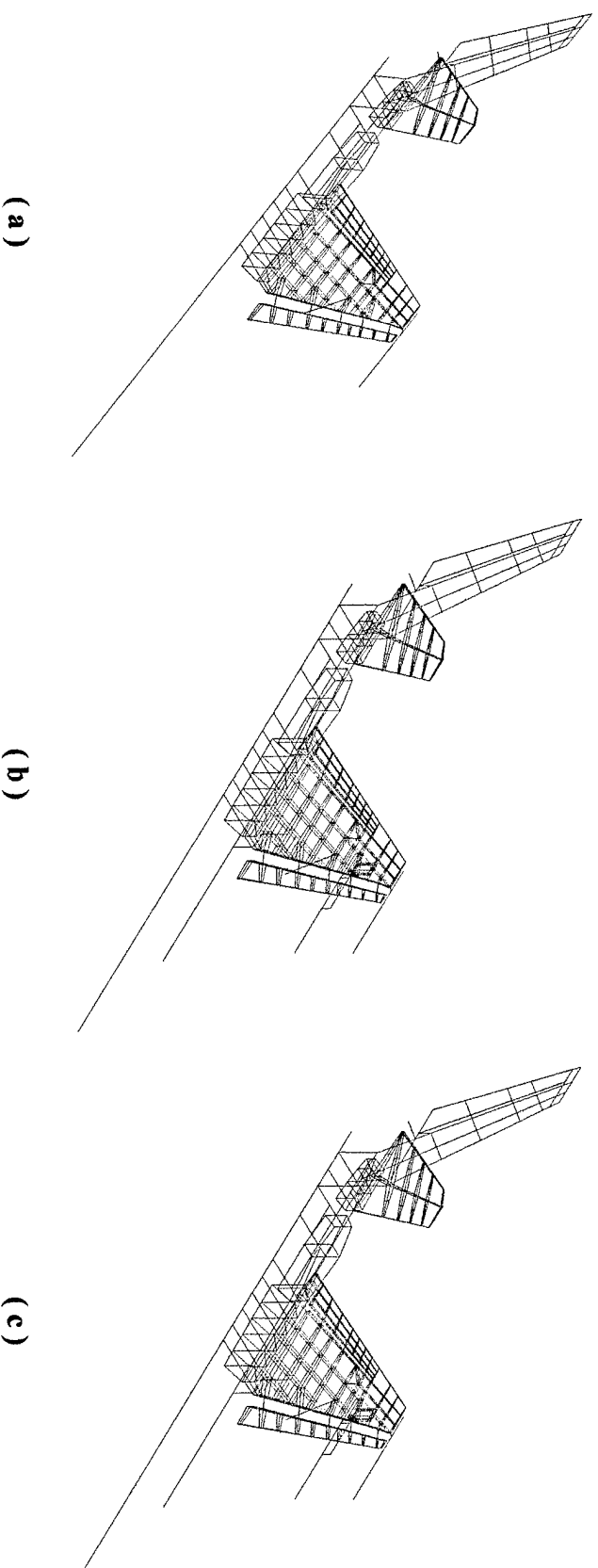
The natural frequencies for the whole aircraft with stores of each case are given in Table 3.2. The NASTRAN data needed to generate the natural frequencies and mode shapes are given in Appendices A, B, and C for the classical flutter, typical LCO and non-typical LCO cases, respectively. These natural frequencies and mode shapes are used in the present flutter/LCO predictions as described in the next three sections.



**Table 3.4 Natural Frequencies of F-16A (with Rigid Body Modes).**

Mode Shape	Natural frequency (Hz)		
	Case 1 Classical Flutter	Case 2 Typical LCO	Case 3 Non-typical LCO
<b>1</b>	0.0	0.0	0.0
<b>2</b>	0.0	0.0	0.0
<b>3</b>	0.0	0.0	0.0
<b>4</b>	9.01	7.74	8.16
<b>5</b>	9.91	8.10	8.36
<b>6</b>	12.03	9.77	10.71
<b>7</b>	12.20	10.93	11.58
<b>8</b>	13.61	11.97	12.60
<b>9</b>	15.69	12.42	13.99
<b>10</b>	17.41	13.74	14.84
<b>11</b>	20.71	15.19	15.52
<b>12</b>	29.59	17.23	17.70
<b>13</b>	29.76	19.53	19.90
<b>14</b>	33.94	22.19	22.44
<b>15</b>	36.45	24.00	23.93
<b>16</b>	39.68	26.09	26.60
<b>17</b>	41.79	29.75	29.96
<b>18</b>	44.05	30.55	31.72
<b>19</b>	44.92	31.58	32.36





**Figure 3.4 Finite Element Model of F16A – (a) Classical Flutter Case (b) Typical LCO Case, (c) Non-typical LCO Case.**

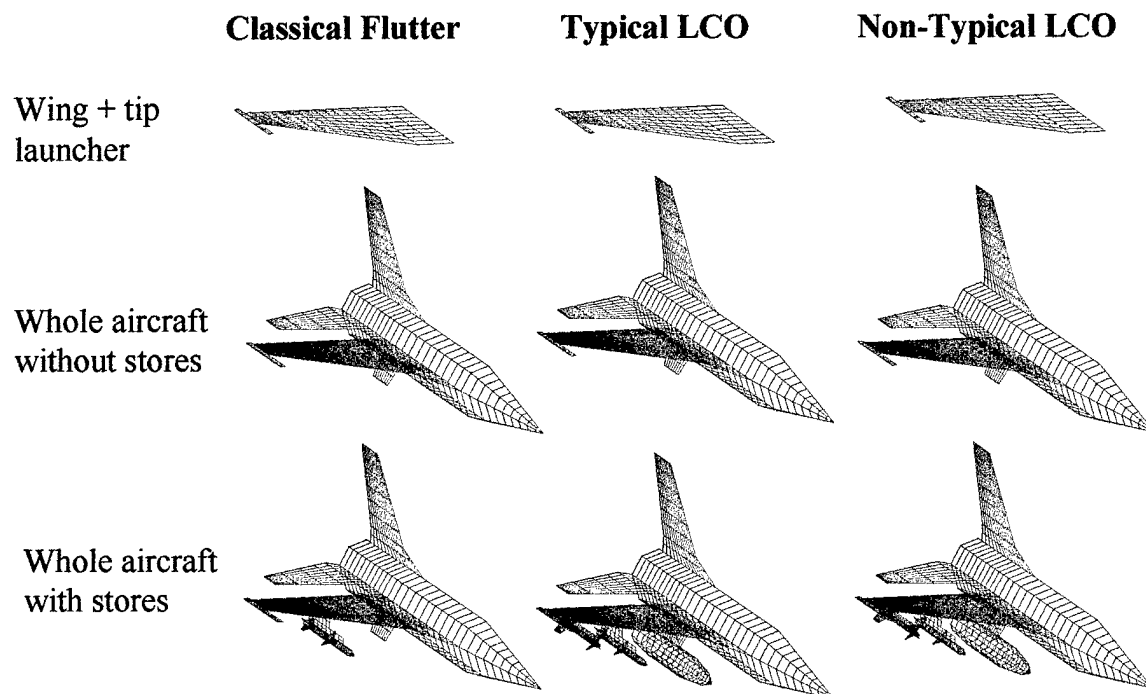


### 3.4 Aerodynamic Model

Three aerodynamic models (Figure 3.5) are generated for each of the three F16/store configurations as follows:

- Model 1 : Wing with tip launcher only
- Model 2 : Whole aircraft without under stores
- Model 3 : Whole aircraft with stores.

The aerodynamic influence coefficient is calculated based on two different methods: linear and nonlinear unsteady aerodynamics. The linear aerodynamic methods are ZONA6 and ZONA7 for subsonic and supersonic flows, respectively. The nonlinear aerodynamic method is ZONA Transonic Aerodynamic Influence Coefficient (ZTAIC) method. These three aerodynamic codes are the essential parts of ZAERO to generate the AIC of the whole configurations, including fuselage, wing, empennage and stores.



**Figure 3.5 Aerodynamic Models of F-16/Store**



### 3.5 Steady Transonic Aerodynamic Data

The steady transonic aerodynamic data in the present work was supplied by Denegri of Eglin Air Force Base for five Mach numbers, including  $M = 0.8, 0.90, 0.95, 0.98$ , and  $1.05$ . The pressure distribution for the wing lower and upper surfaces of each Mach number are shown in Figure 3.6.

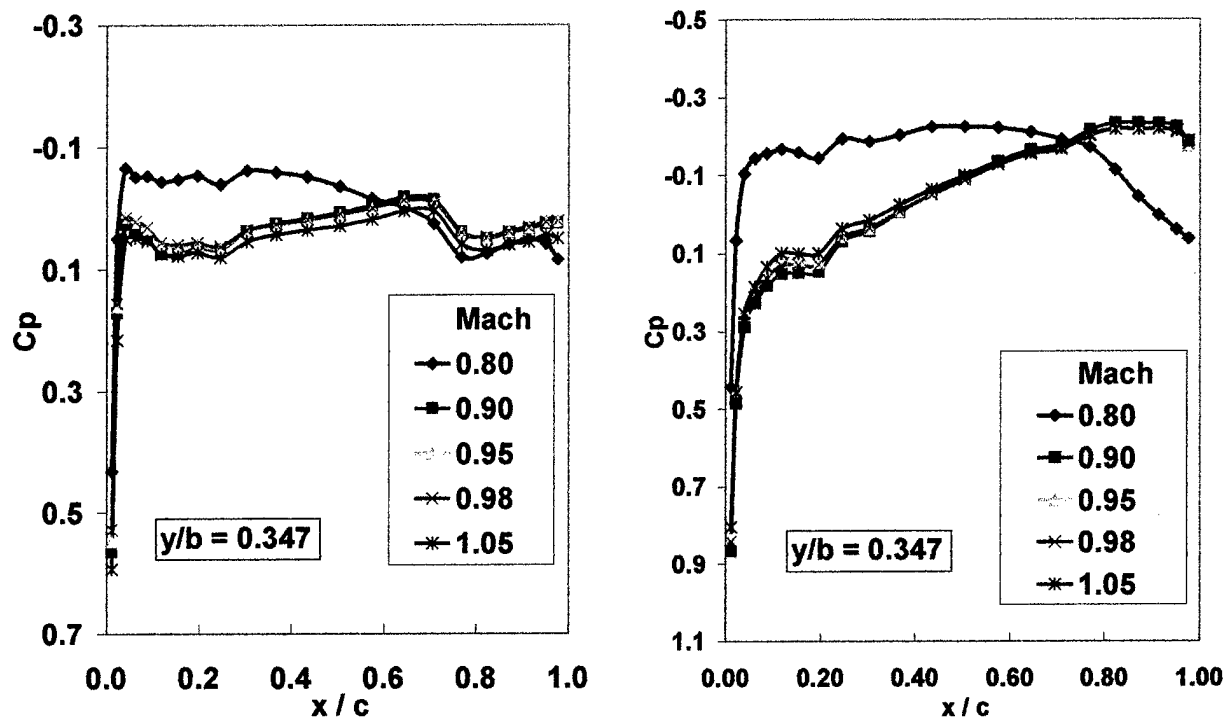


Figure 3.6a  $C_p$  Distribution at  $y = 0.347 b$ .



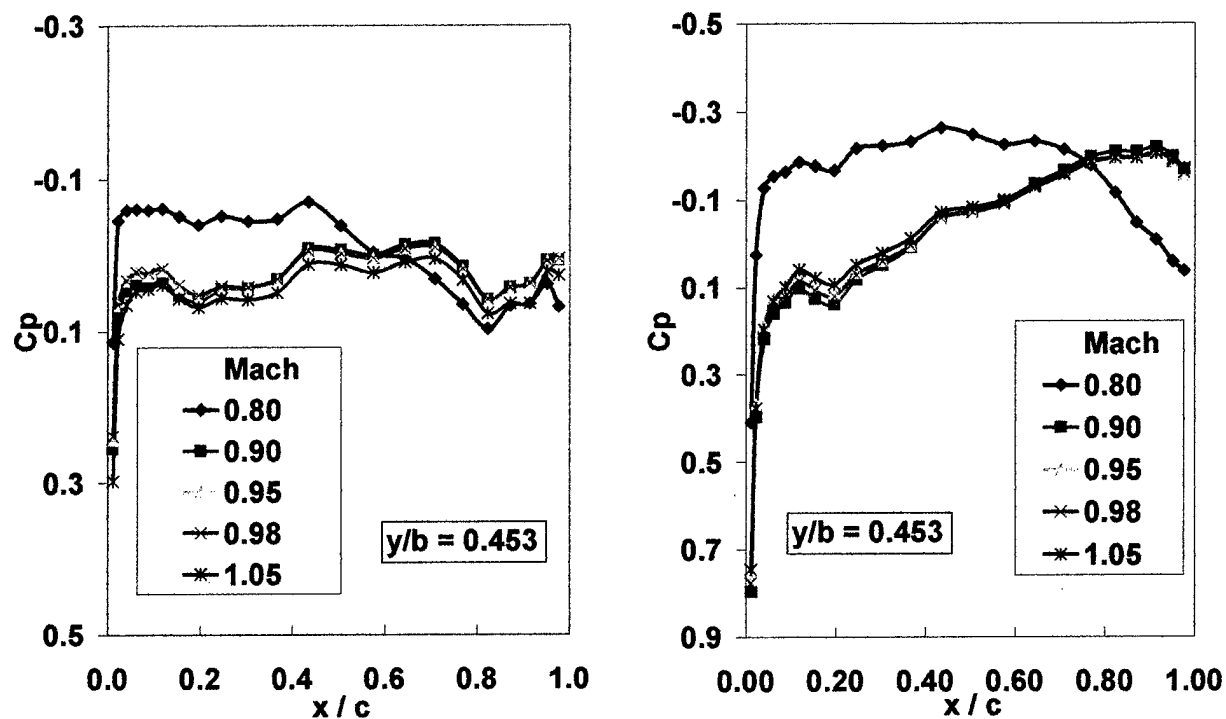


Figure 3.6b  $C_p$  Distribution at  $y = 0.453 b$ .

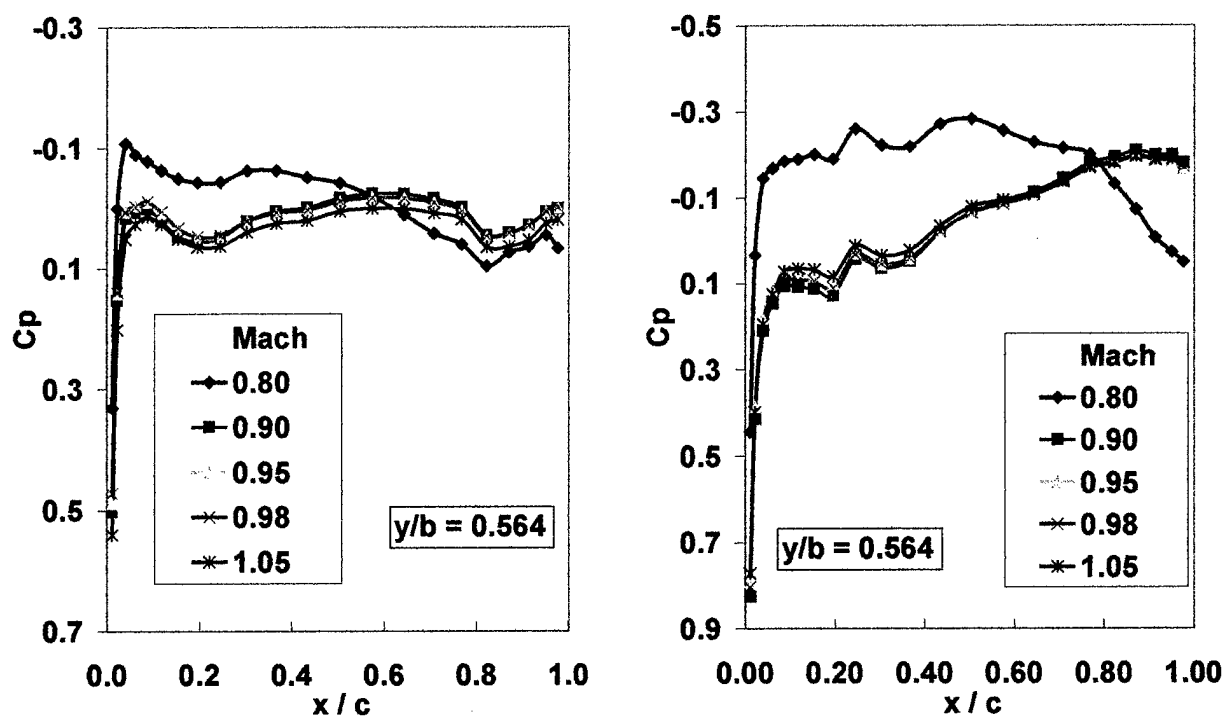


Figure 3.6c  $C_p$  Distribution at  $y = 0.564 b$ .



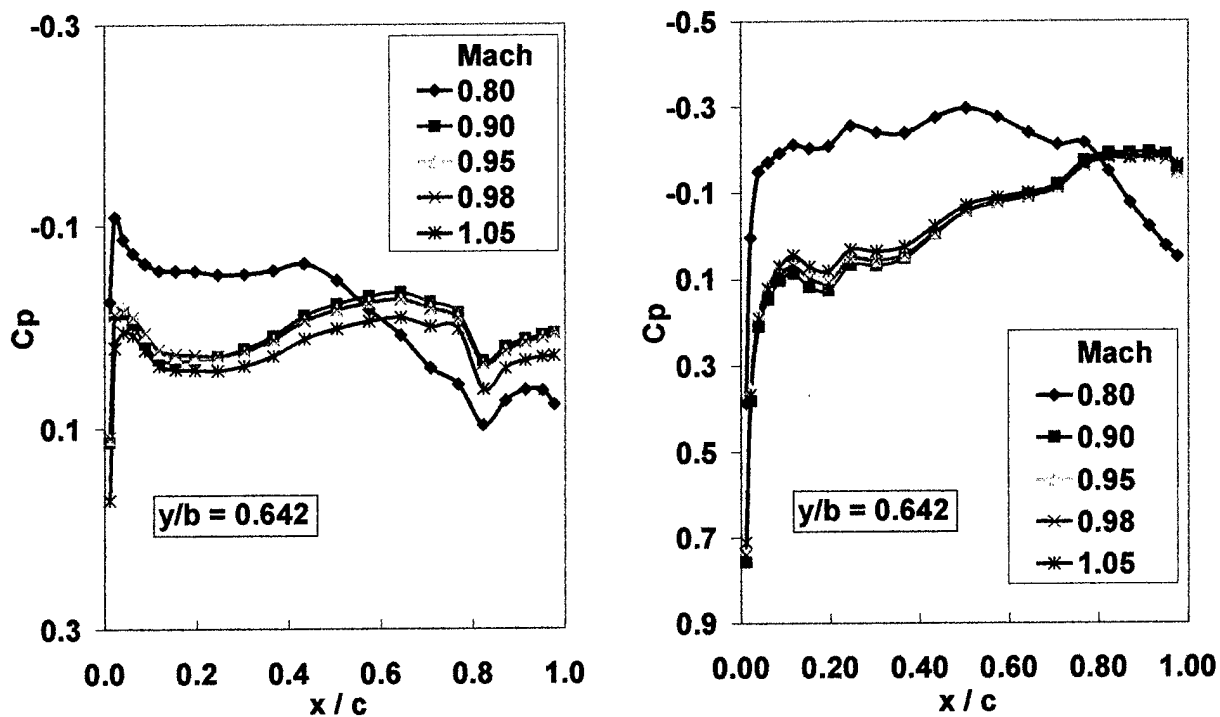


Figure 3.6d  $C_p$  Distribution at  $y = 0.642 b$ .

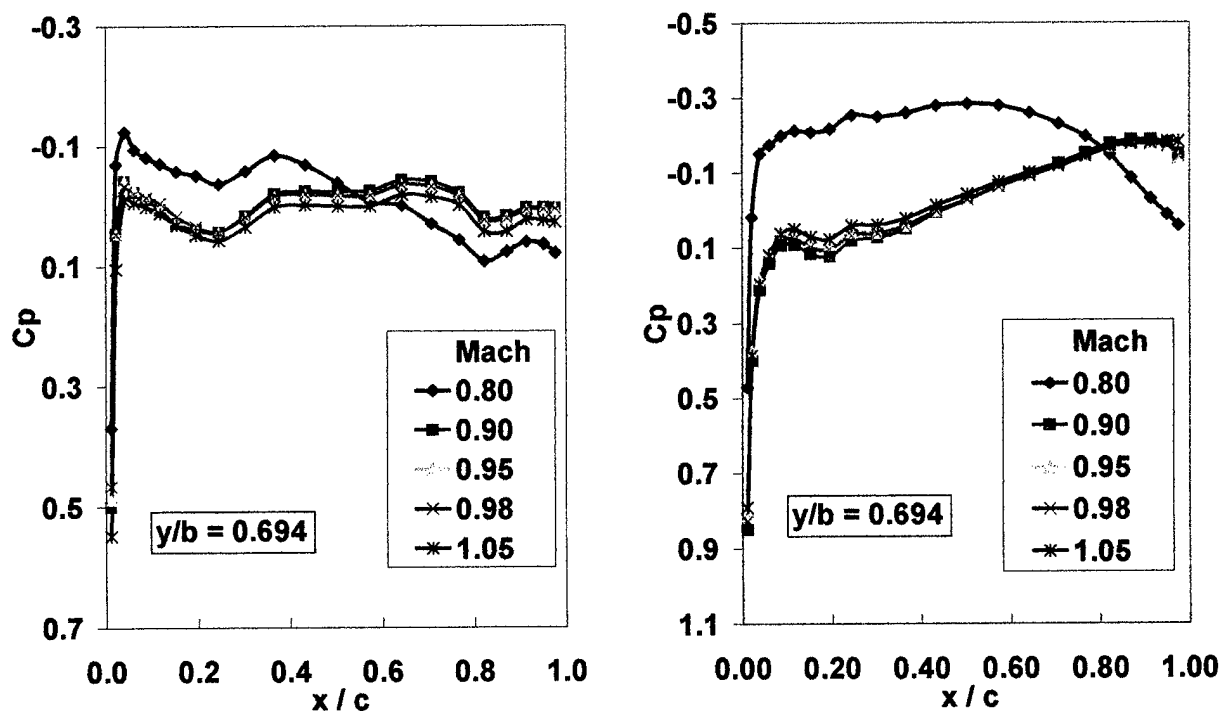


Figure 3.6e  $C_p$  Distribution at  $y = 0.694 b$ .



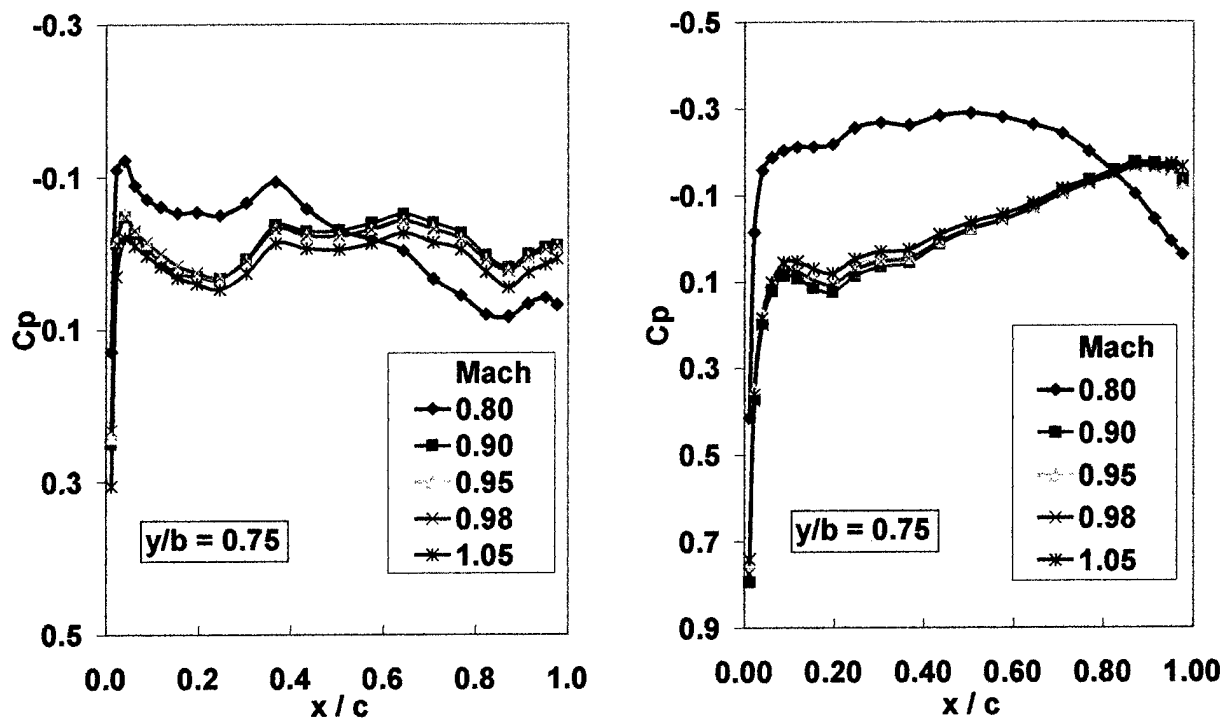


Figure 3.6f  $C_p$  Distribution at  $y = 0.75 b$ .

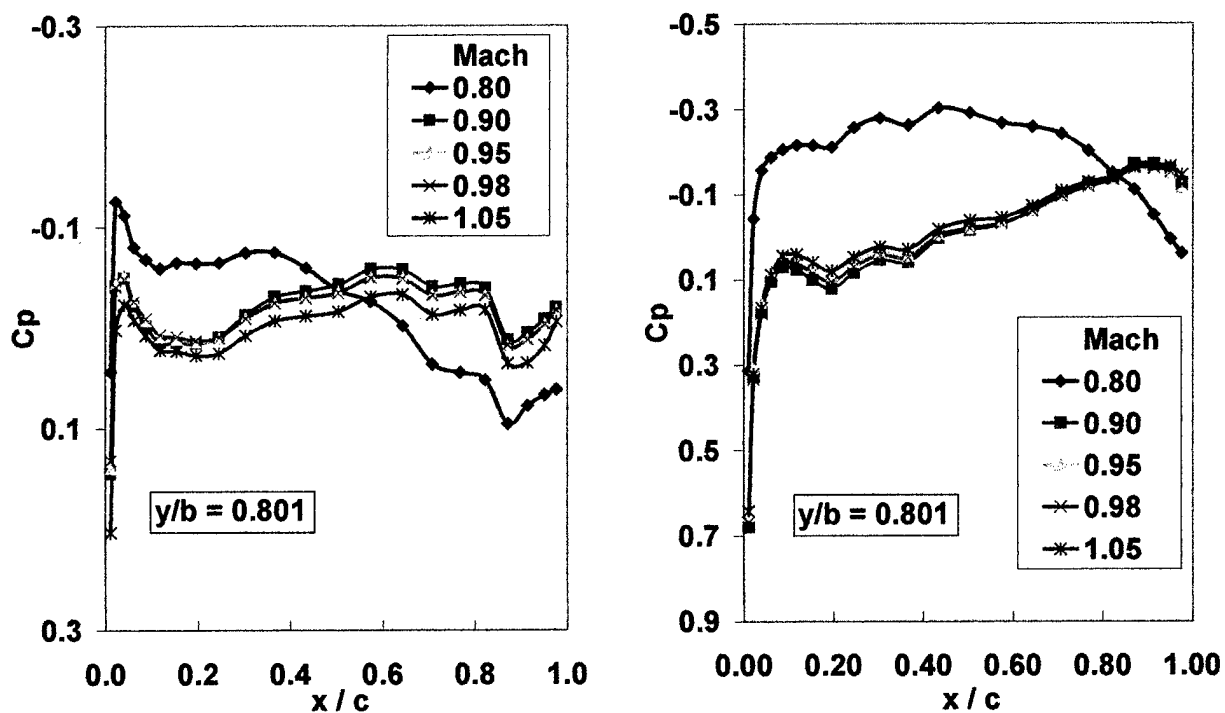


Figure 3.6g  $C_p$  Distribution at  $y = 0.801 b$ .



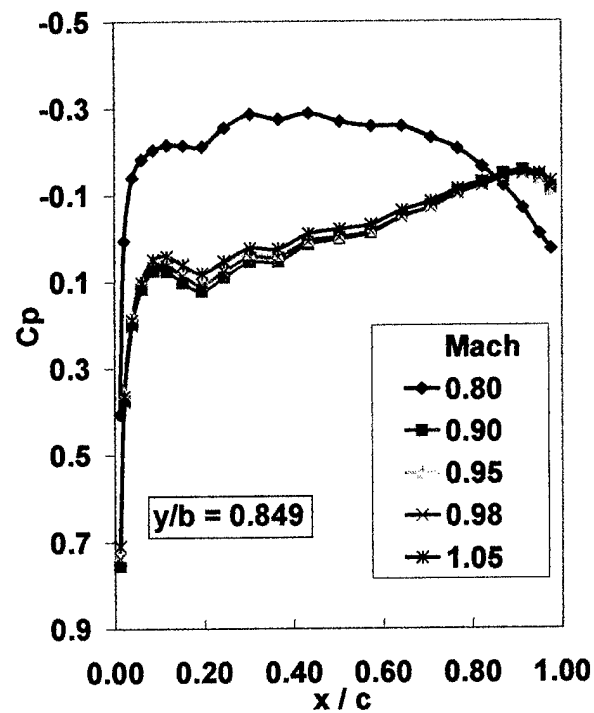
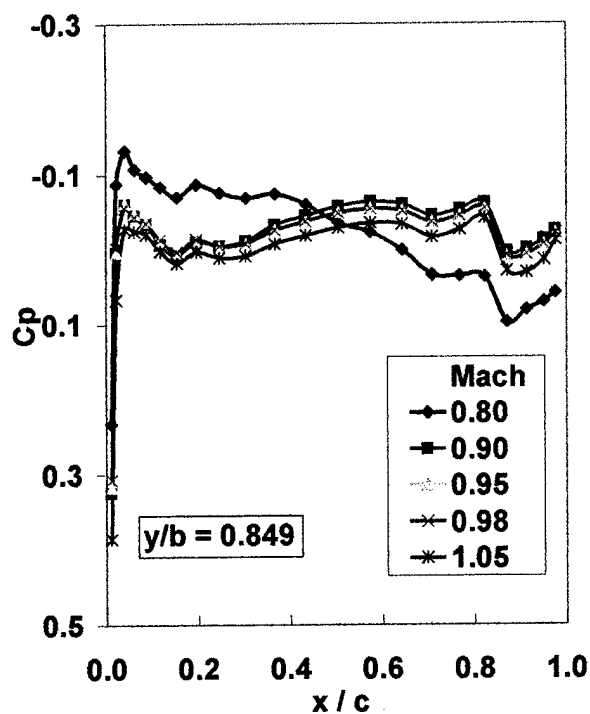


Figure 3.6h  $C_p$  Distribution at  $y = 0.849 b$ .

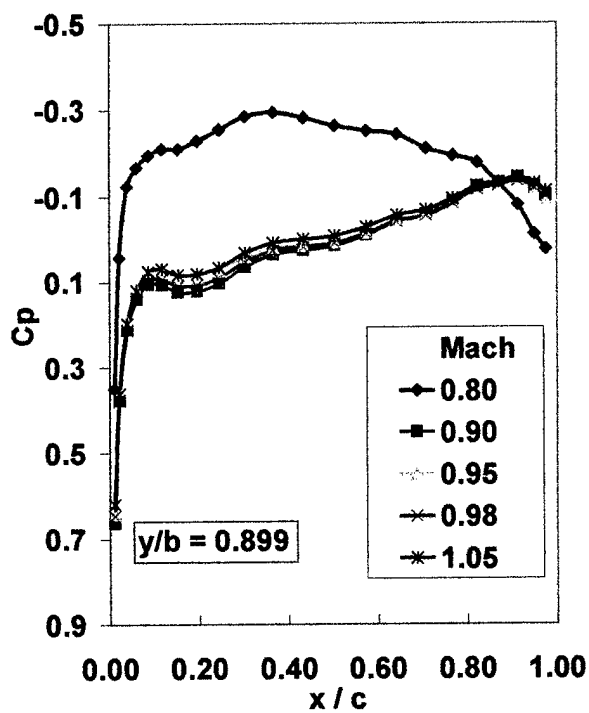
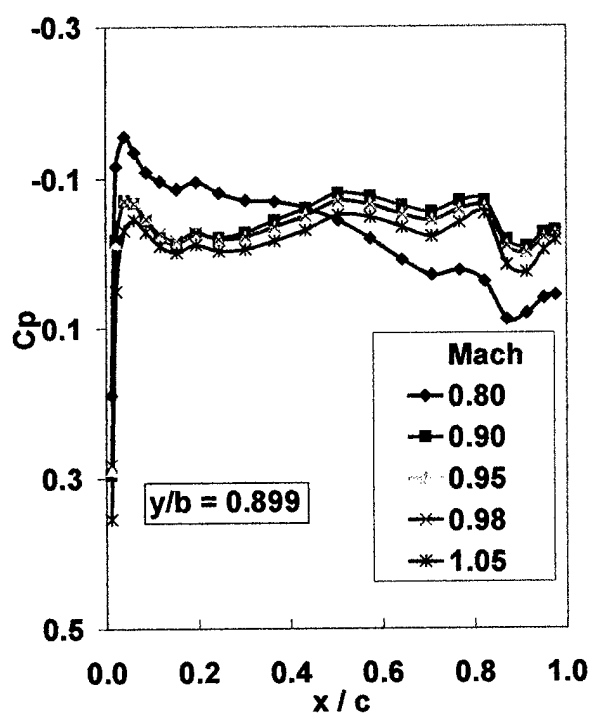


Figure 3.6i  $C_p$  Distribution at  $y = 0.899$ .



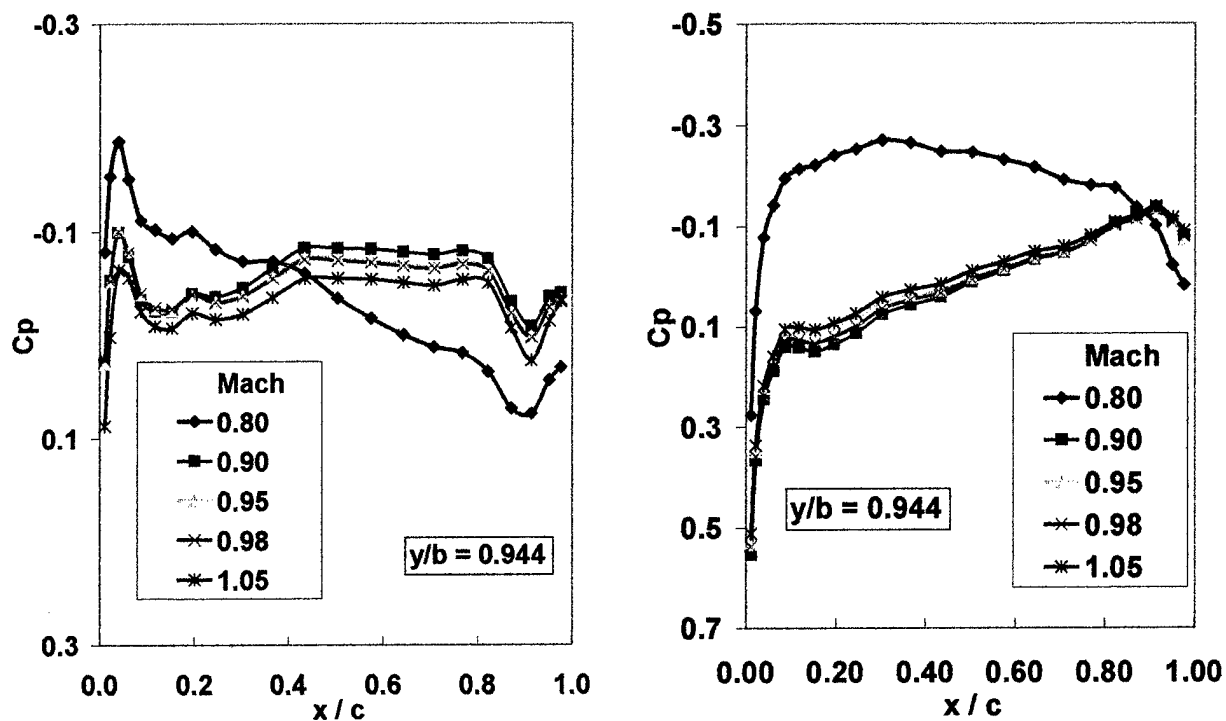


Figure 3.6j  $C_p$  Distribution at  $y = 0.944$  b.

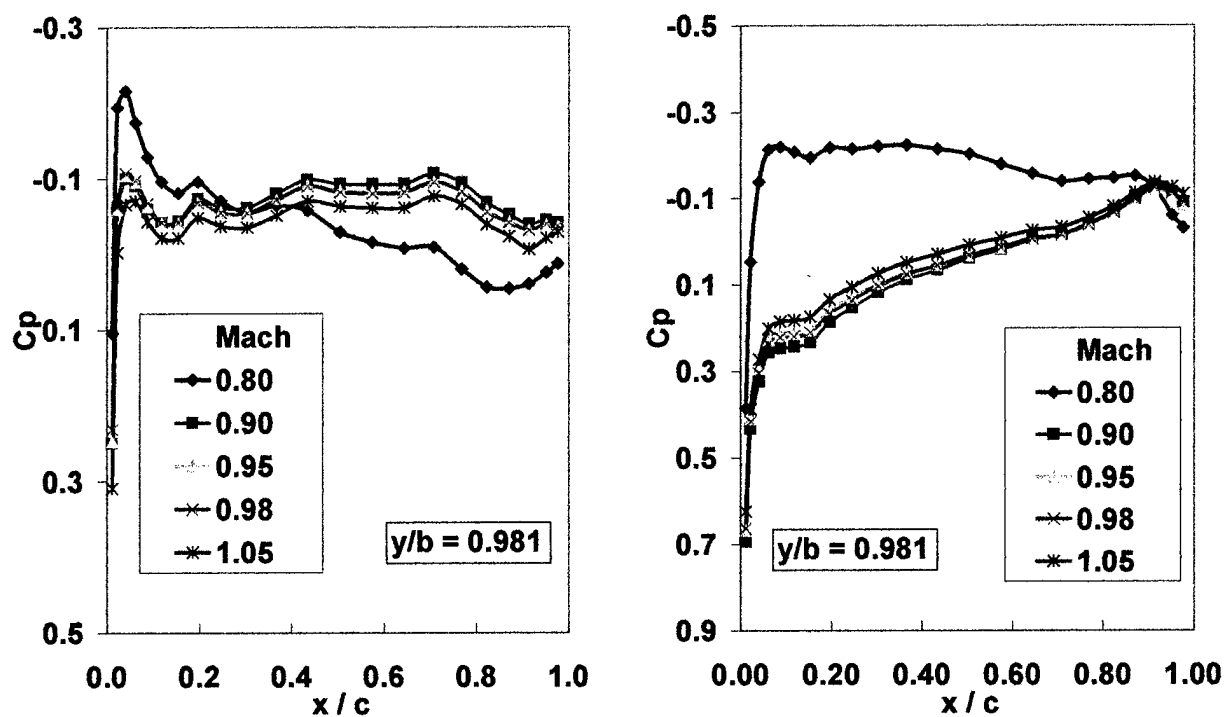


Figure 3.6k  $C_p$  Distribution at  $y = 0.981$  b.



## SECTION 4

### CORRELATION OF THE F-16 / STORE CLASSICAL FLUTTER PREDICTIONS WITH FLIGHT TEST DATA

#### 4.1 Flight Test Result and Previous Numerical Prediction

Reference 1 described that a classical flutter instability occurred during the flight test of F-16 with the air-surface missiles at Station 3 and LAU-129/A launcher at the wing tip (Figure 3.1). The instability response was characterized by a sudden onset of high-amplitude wing oscillations. The measured oscillatory wing tip response during level flight at five altitude is shown in Fig 3.1. At 10,000 ft altitude and level flight, no significant structural responses occurred between Mach 0.80 and 0.90, but a rapid onset of high amplitude anti-symmetric oscillations was encountered at Mach 0.95 and frequency of 9.5 Hz. Similar behavior was observed for other test altitudes.

An attempt to predict this classical flutter case has been conducted by Denegri in Refs 1 and 18. The calculation was performed at  $M = 0.90$ . The aerodynamic model used in Ref 1 and 18 is an isolated wing with tip launcher only, *i.e.* the same as the aerodynamic model #1 of the present work as shown in Fig 4.1. No aerodynamic modeling of fuselage, empennage and underwing stores is included. The only influence of the fuselage, empennage and stores considered in the flutter analysis is their effect on structural modal characteristics. The flutter calculation was conducted using the non-matched method. Two critical speed were found in the calculations. The first critical speed and frequency are  $V_f = 442$  KCAS and  $f_f = 10.17$  Hz with a hump-mode type of flutter mode. The second critical speed is at  $V_f = 745$  KCAS and  $f_f = 9.37$  Hz with an explosive type of flutter mode (Ref 18). The result indicates that the flight test frequency is well correlated with the second flutter mode frequency. However, the calculated flutter speed was higher than the flight test data.

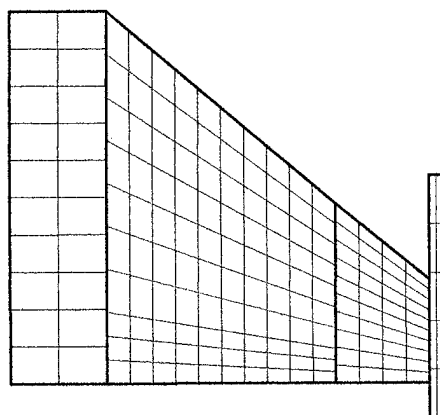


Figure 4.1 Aerodynamic Model #1 for the Classical Flutter Case.



## 4.2. Linear Aerodynamic Approach

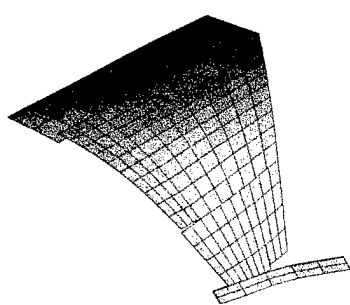
### 4.2.1 Aerodynamic Model #1

The first aerodynamic model of the present work is the isolated wing with tip launcher (Figure 4.1), *i.e.* the same as the model used in Ref 1. Figure 4.2 shows the first four natural (undamped) mode shapes. Employing a non-matched point flutter analysis of ZAERO at  $M=0.90$  and sea level density, the first critical speed was found to be  $V_f=456$  KCAS and flutter frequency was  $f_f=10.17$  Hz (dominated by the third structural mode), and the second flutter speed/frequency was  $V_f=752$  KCAS /  $f_f=9.36$  Hz (dominated by the first structural mode). These results are very close to the analysis results in Refs 1 and 18 as shown in Table 4.1 and Fig 4.3. Figure 4.4 shows the flutter mode shape for  $V_f=752$  KCAS at several time steps. The V-g and V-f plots of the present flutter analysis given in Fig 4.4 show similar results to Fig 12 of Ref 1. Note that Refs 1 and 2 used different numerical procedures for computing the unsteady aerodynamics, *i.e.* a doublet-lattice method for the unsteady aerodynamic prediction and a Laguerre variation of the classical K-method for the flutter solution.

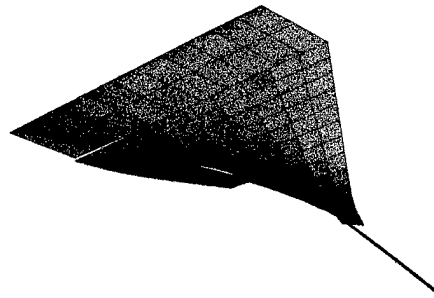
**Table 4.1 Flutter Results Using Linear Aerodynamics at  $M=0.9$ .**

Aerodynamic Model or Methods		Flutter Speed (KCAS)	Flutter Frequency (Hz)
Flight test (on set of flutter speed)		585.4	9.5
Denegri's DLM results (Aerodynamic Model #1: Wing + tip launcher only, non matched point)	$g=0\%$	745	9.37
	$g=1\%$	807	9.39
Aerodynamic Model #1: Wing + tip launcher only, (non matched point)	$g=0\%$	752	9.36
	$g=1\%$	831	9.36
Aerodynamic Model #2: Whole aircraft without underwing stores (matched point)	$g=0\%$	483	9.56
	$g=1\%$	517	9.55
Aerodynamic Model #3: Whole aircraft with stores (matched point)	$g=0\%$	478	9.57
	$g=1\%$	513	9.55
Aerodynamic Model #3: Whole aircraft with stores but without rigid body modes (matched point)	$g=0\%$	486	9.56
	$g=1\%$	522	9.55

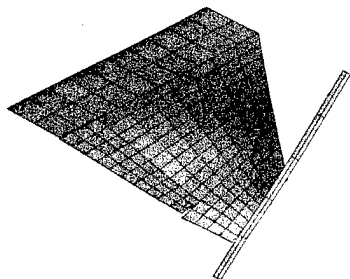




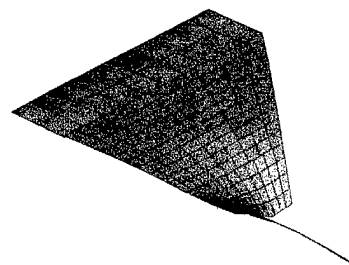
Mode 1 (9.19 Hz)



Mode 2 (9.96 Hz)

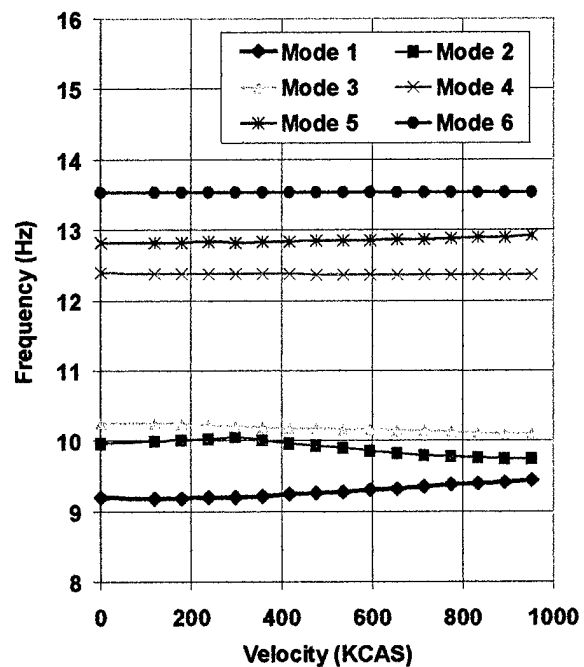
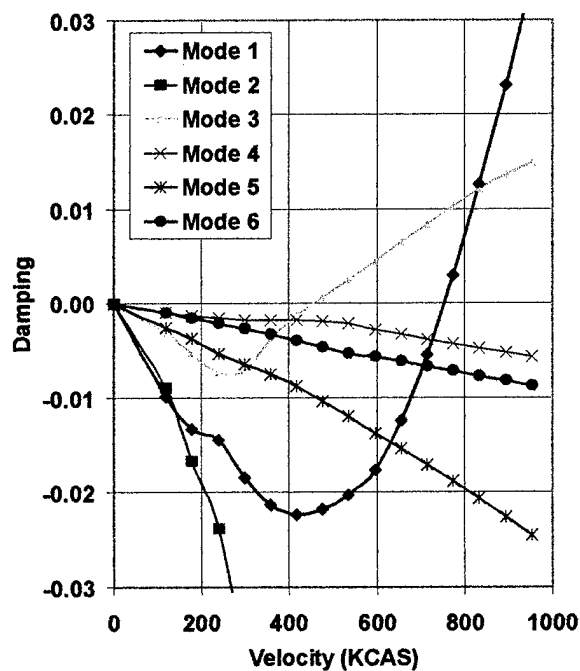


Mode 3 (10.25 Hz)



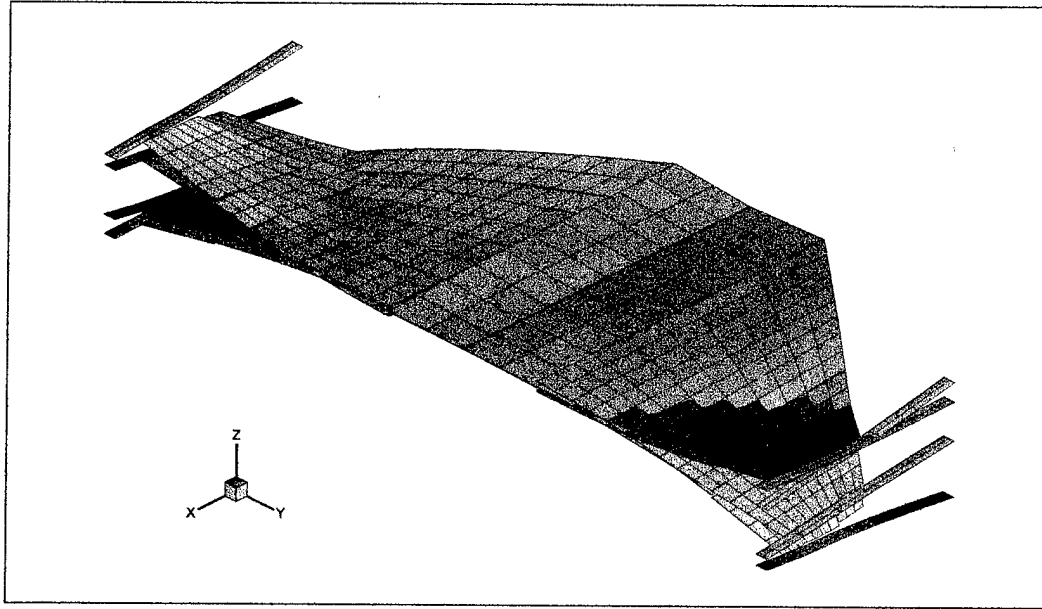
Mode 4 (12.39 Hz)

**Figure 4.2 Vibration Modes of Aerodynamic Model #1.**



**Figure 4.3 The Flutter V-g and V-f plots for Wingtip Launcher only Model at M = 0.9 Using the Linear Aerodynamic Approach.**



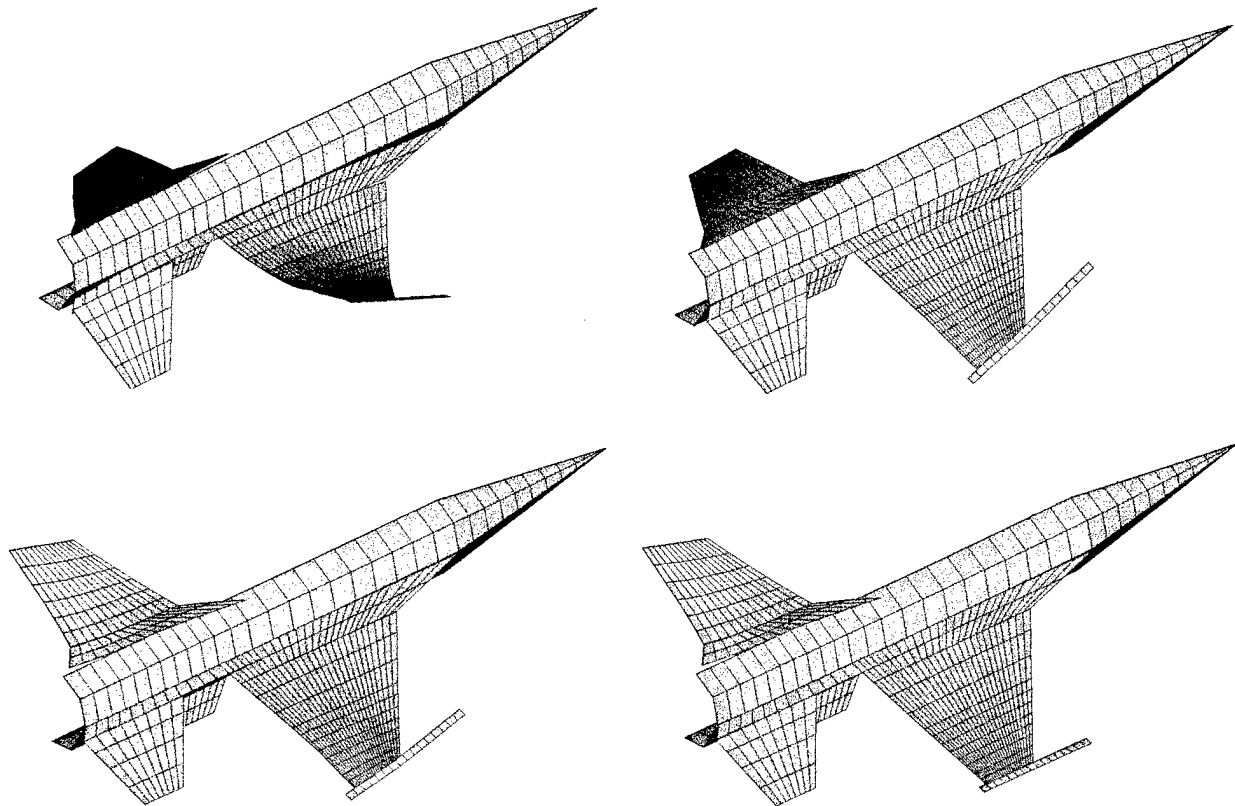


**Figure 4.4 The Flutter Mode Shape at  $V_f = 752$  KCAS and  $f_f = 9.36$  Hz of the Wing-Tip Launcher Only Model.**



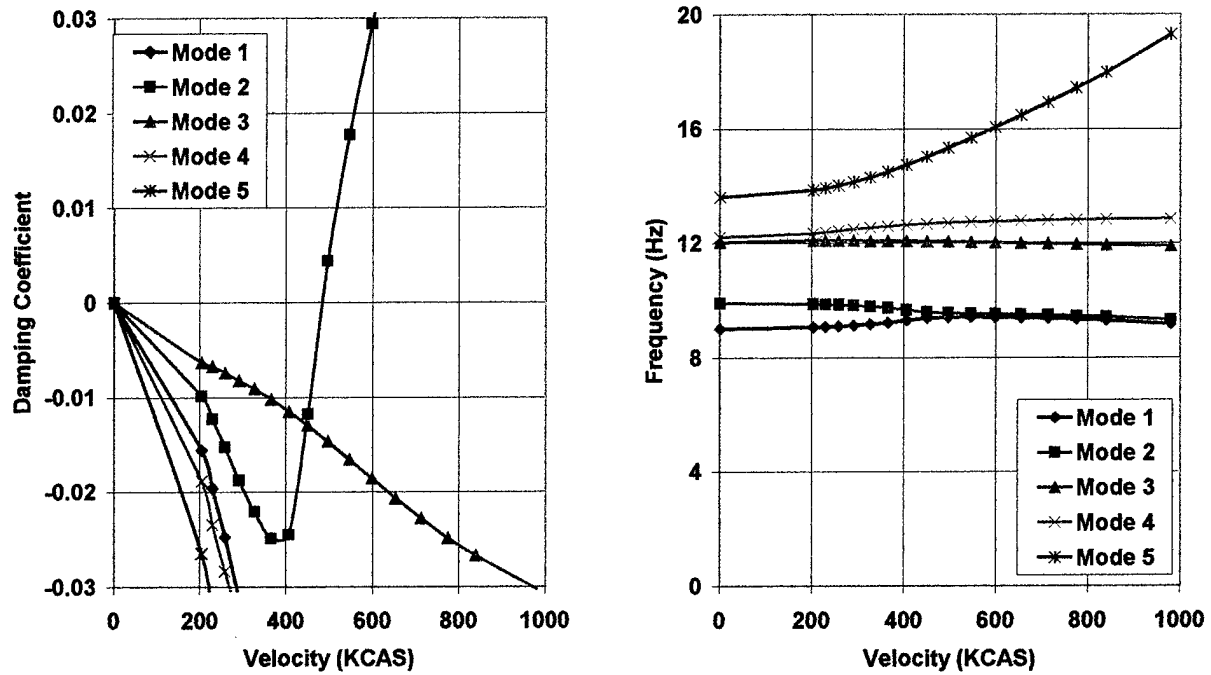
#### 4.2.2 Aerodynamic Model #2

The flutter calculation was repeated using the aerodynamic model #2, i.e. the whole aircraft without underwing stores. The flutter calculation using the matched point method gave the flutter speed/frequency at  $V_f = 483$  KCAS /  $f_f = 9.56$  Hz. Note that there is no second critical speed in this second model. If the structural damping is assumed to be  $g = 1.0\%$ , then the flutter speed and frequency becomes  $V_f = 517$  KCAS and  $f_f = 9.55$  Hz. The result for this configuration shows that the inclusion of the fuselage and empennage aerodynamic model improves the result, i.e. closer to the flight test data.

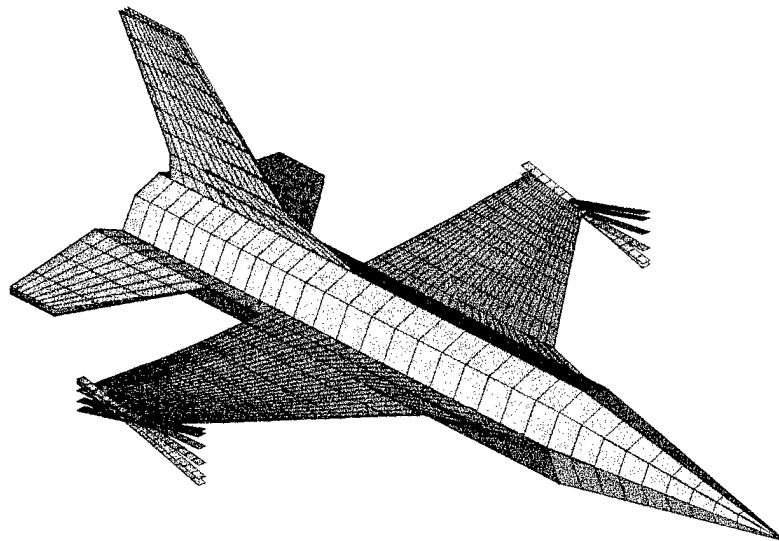


**Figure 4.5** Vibration Modes of the Aircraft Model without Underwing Stores





**Figure 4.6 The Flutter V-g and V-f Plots for the Whole Aircraft Model without Underwing Stores at  $M = 0.9$  Using the Linear Aerodynamic Approach.**



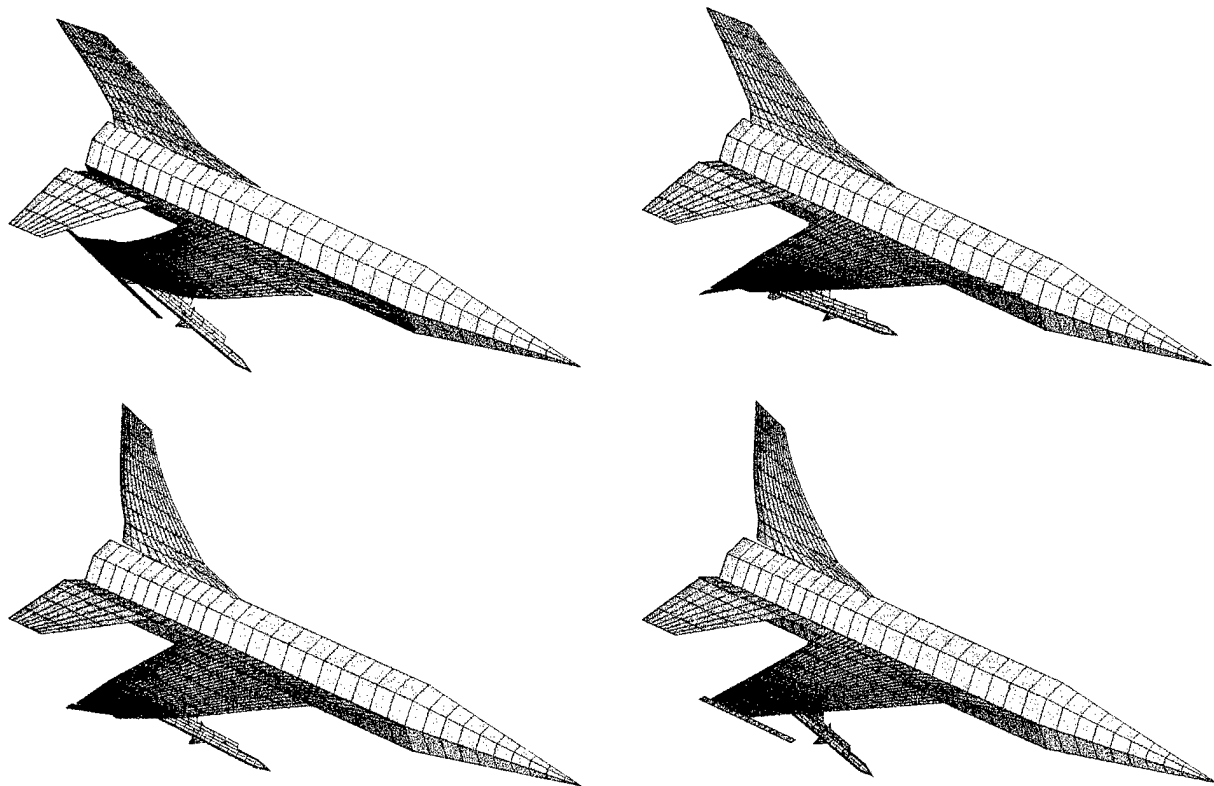
**Figure 4.7 The Flutter Mode Shape of the Aircraft Model Without Underwing Stores.**



### 4.2.3 Aerodynamic Model #3, $M = 0.90$

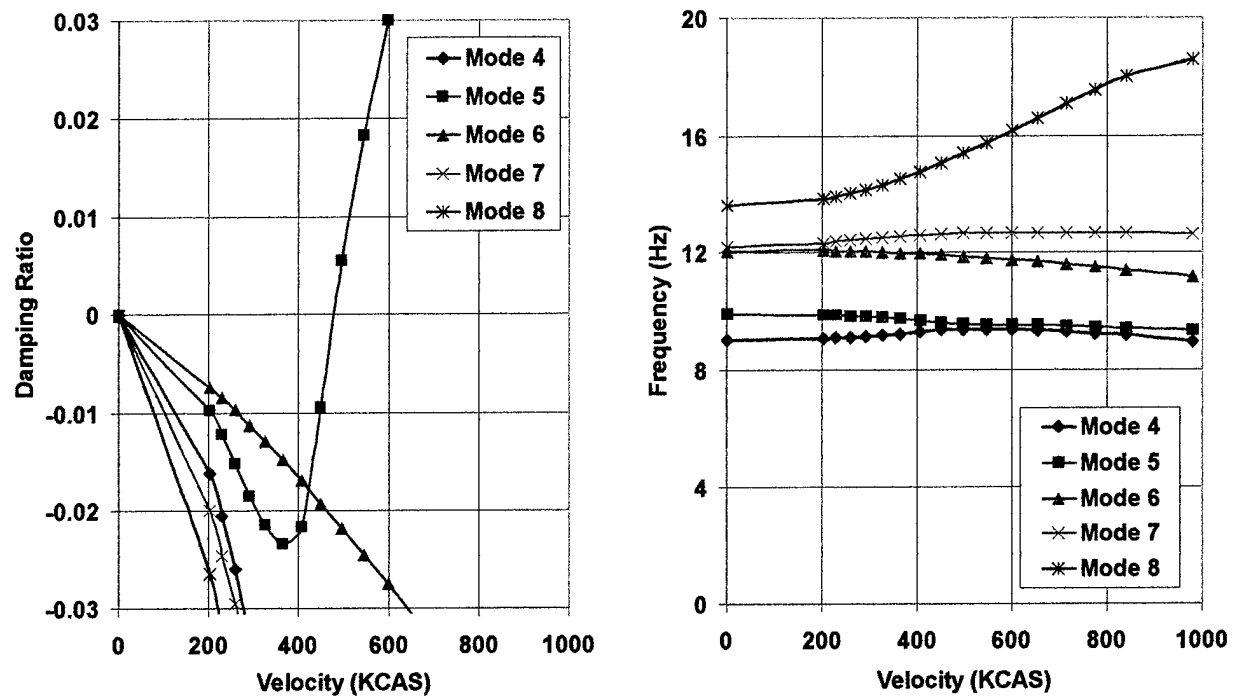
The flutter calculation was repeated using the aerodynamic model #3, i.e. the whole aircraft with underwing stores. The natural mode shapes are shown in Figure 4.8. The flutter calculation using the matched point method gave the flutter speed/frequency at  $V_f = 486$  KCAS /  $f_f = 9.56$  Hz. Note that there is no second critical speed in this third model. If the structural damping is assumed to be  $g = 1.0\%$  than the flutter speed and frequency becomes  $V_f = 522$  KCAS and  $f_f = 9.55$  Hz. Clearly, the result for this configuration is closer to the flight test data as shown in Table 4.1.

All of the previous calculations on the classical flutter did not include the structural rigid body modes. If the anti-symmetric rigid body modes are included to the whole aircraft with store model, the similar procedures gave the flutter speed / frequency at  $V_f = 478$  KCAS /  $f_f = 9.57$  Hz for  $g=0\%$ , and  $V_f = 513$  KCAS /  $f_f = 9.55$  Hz for  $g = 1.0\%$ . These results are very close to the results of the model without rigid body modes. Therefore, for the classical flutter of the present case, the influence of the rigid body modes is not significant. Figure 4.9 shows the flutter V-g and V-f diagrams for aerodynamic model #3. The flutter modes for several time steps is presented in Fig 4.10.

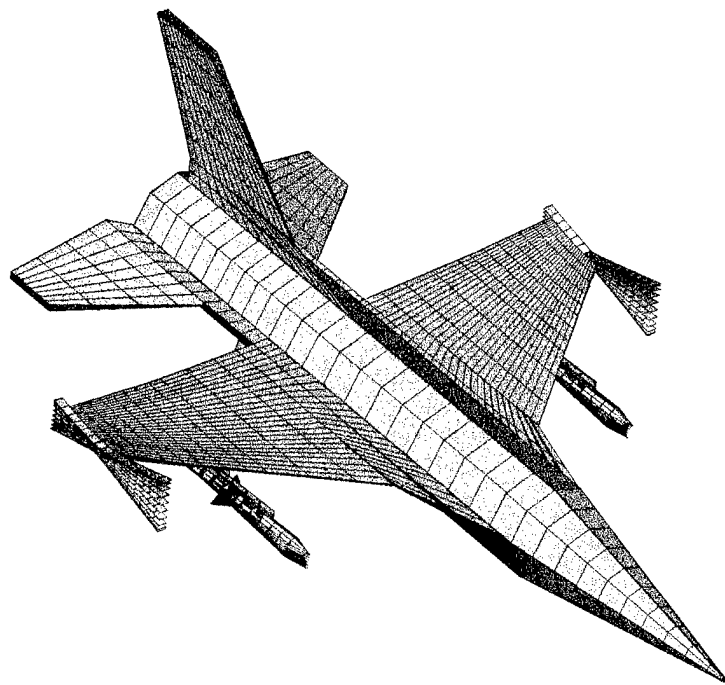


**Figure 4.8 Vibration Modes of the Aircraft Model with Underwing Stores**





**Figure 4.9 The Flutter V-g and V-f plots of the Whole Aircraft Model with Underwing Stores at  $M = 0.9$  using the Linear Aerodynamic Approach.**



**Figure 4.10 The Flutter Mode Shape of the Whole Aircraft Model with Underwing Stores at  $M = 0.9$ .**



#### 4.2.4. Aerodynamic Model #3. Mach 0.8 – 1.05

The flutter calculations for  $M = 0.90$  showed improvement on the solution results if a more refined aerodynamic model is used. However, previous results does not give a direct correlation between the flutter prediction and the flight test data. Note that, to indicate the flutter onset, the flight test data presents the measure acceleration response level in terms of Mach numbers and altitudes. Therefore, in order to correlate the numerical predictions with the flight test data, the calculation was repeated for several Mach numbers, including  $M = 0.80, 0.90, 0.95, 0.98$ , and  $1.05$ . The flutter solution is represented by the damping coefficient as a function of Mach number for each altitude as shown in Fig 4.11. Note that the correlation of the flutter prediction with the altitude is automatically generated by using the matched point option of the g-method.

The critical speed and frequency are given in Table 4.2. The results presented in Fig 4.11. shows that

- Linear aerodynamic approach (ZONA6/ZONA7) predicts explosive damping of the unstable mode in all altitudes.
- For the altitude lower than 15,000 ft, the flutter onset Mach number of the flight test data was correlated very well with the linear aerodynamic approach if the structural damping is assumed to be 1%.
- For altitudes of 15,000 ft and higher, the onset Mach number of the flight test data occurred near  $M = 0.98$  and  $1.02$  where the nonlinearity effect of the transonic aerodynamic is significant. Therefore, the linear aerodynamic approach gives a higher prediction of the onset Mach number for these altitudes.

**Table 4.2 Critical Speed and Frequency Using the Linear Aerodynamic Approach (ZONA6/ZONA7)**

<i><b>Mach Number</b></i>	<i><b>Damping Coeff. g (%)</b></i>	<i><b>Flutter Speed (KCAS)</b></i>	<i><b>Flutter Frequency (Hz)</b></i>
<b>0.80</b>	0.0	485	9.58
	1.0	521	9.56
<b>0.90</b>	0.0	486	9.56
	1.0	522	9.55
<b>0.95</b>	0.0	479	9.56
	1.0	515	9.55
<b>0.98</b>	0.0	500	9.58
	1.0	556	9.58
<b>1.05</b>	0.0	490	9.58
	1.0	517	9.58



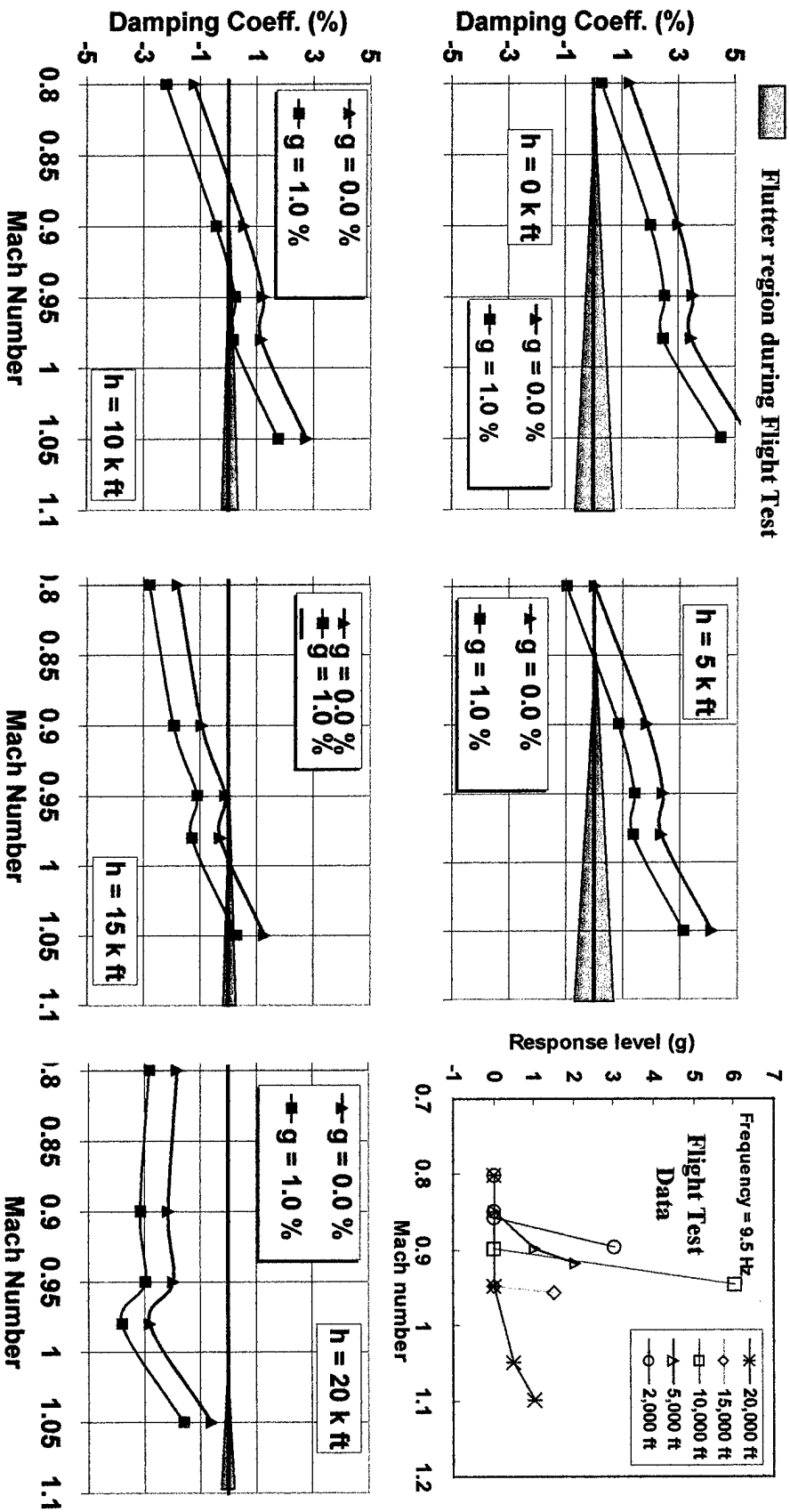


Fig 4.11 Correlation between the Flutter Prediction using the Linear Aerodynamic Approach (ZONA6/ZONA7) with Flight Test Data of the Classical Flutter Case.



### 4.3 Nonlinear Aerodynamic Approach

The flight test for the classical flutter configuration indicated that the aeroelastic instability for this case occurred between 0.85 and 1.1, *i.e.* in transonic regime where the nonlinear behavior of the aerodynamic flow may significantly influence the critical speed. To investigate the flutter calculation in this transonic regime, a nonlinear aerodynamic approach based on the ZTAIC method was used for the prediction of the unsteady aerodynamic data. The steady aerodynamic data was provided by Dr. Charles Denegri of Eglin Air Force Base as shown in Section 3. The flutter calculation was conducted for the whole aircraft with stores. Mach numbers ranged from 0.80 to 1.05. Rigid body modes were included in the structural dynamic calculations.

#### 4.3.1 Aerodynamic Model #3 at $M = 0.90$

The flutter calculation for  $M = 0.90$  using the matched point method gave the flutter speed/frequency at  $V_f = 501$  KCAS /  $f_f = 9.58$  Hz. Note that there is no second critical speed in this third model. If the structural damping is assumed to be  $g = 1.0\%$ , the flutter speed and frequency becomes  $V_f = 538$  KCAS and  $f_f = 9.56$  Hz. Compared to the results based on the linear aerodynamic approach given in Table 4.1, the present result using the nonlinear aerodynamic approach is closer to the flight test data. Figure 4.12 shows the V-g and V-f plot for Mach 0.90. The associated flutter mode is presented in Fig 4.13.

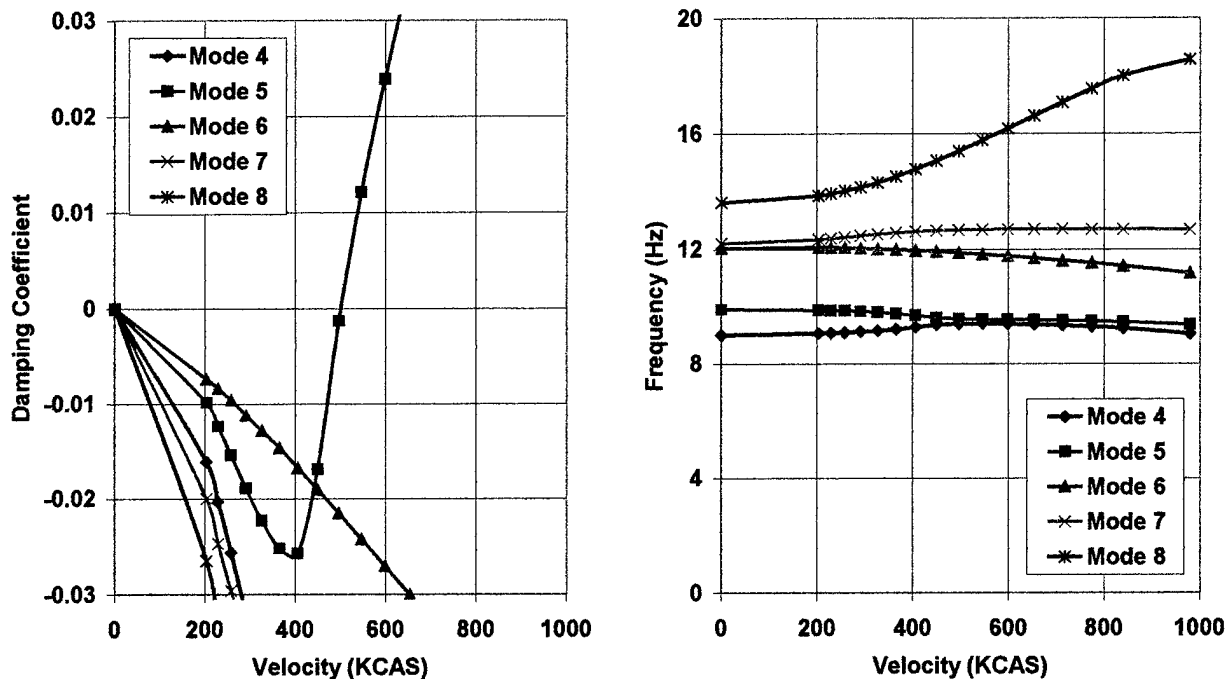
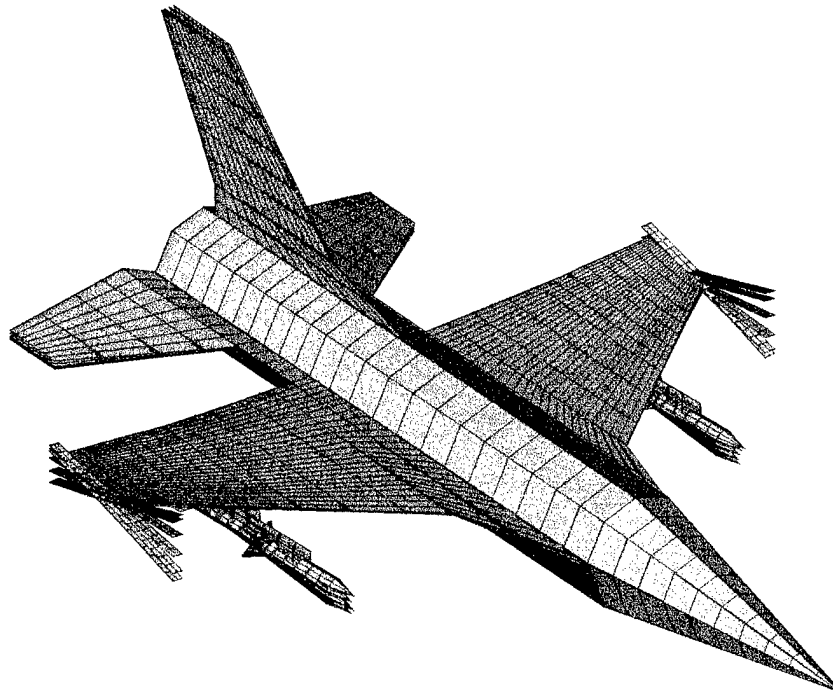


Figure 4.12 The Flutter V-g and V-f plots of the Whole Aircraft Model with Underwing Stores at  $M = 0.9$  Using The Nonlinear Aerodynamic Approach.





**Figure 4.13 The Flutter Mode Shape of The Whole Aircraft Model with Underwing Stores at  $M = 0.9$  Calculated Using The Non-Linear Aerodynamic Method.**

#### **4.3.2 Aerodynamic Model #3 at $M = 0.80 - 1.05$**

In order to correlate the numerical predictions with the flight test data, the calculation for the nonlinear aerodynamic approach was repeated for several Mach numbers, namely  $M = 0.80, 0.90, 0.95, 0.98$ , and  $1.05$ . The flutter solution is represented by the damping coefficient and Mach number as well as the altitudes. The critical speed and frequency for each Mach number are given in Table 4.3. The results presented in Fig 4.14. shows that:

- ZTAIC, i.e. the nonlinear aerodynamic approach, predicts explosive damping of the unstable mode in all altitudes.
- In the post-flutter region, the non-linearity induced stable damping (from either structures or aerodynamics) can not nullify the explosive unstable damping, leading to flutter.
- ZTAIC results indicate that the onset of flutter is very sensitive to the linear structural damping.
- Overall, ZTAIC predicts the flutter onset Mach number better than the linear aerodynamic approach for all altitudes.



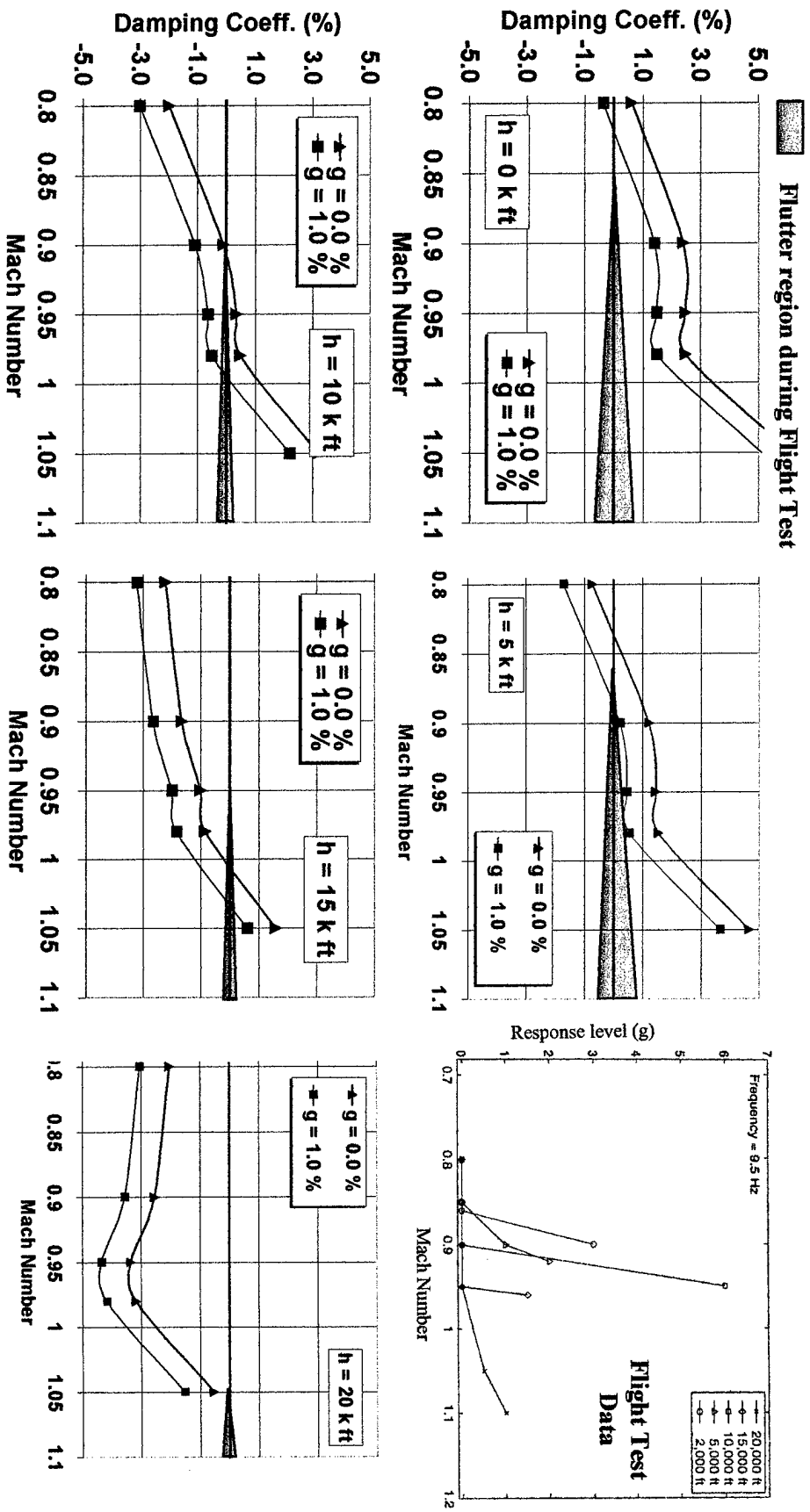


Figure 4.14 Correlation between the Flutter Prediction using the Nonlinear Aerodynamic Approach (ZTAIC) and the Flight Test Data.



**Table 4.3 Critical speed and Frequency Using the Nonlinear Aerodynamic Approach (ZTAIC).**

<i><b>Mach Number</b></i>	<i><b>Damping Coeff. g (%)</b></i>	<i><b>Flutter Speed (KCAS)</b></i>	<i><b>Flutter Frequency (Hz)</b></i>
<b>0.80</b>	0.0	511	9.61
	1.0	549	9.60
<b>0.90</b>	0.0	501	9.58
	1.0	538	9.56
<b>0.95</b>	0.0	512	9.58
	1.0	555	9.58
<b>0.98</b>	0.0	522	9.59
	1.0	567	9.60
<b>1.05</b>	0.0	486	9.59
	1.0	510	9.59



## SECTION 5

### CORRELATION OF THE F-16 / STORE TYPICAL LCO PREDICTIONS WITH FLIGHT TEST DATA

#### 5.1 Flight Test Result and Previous Numerical Prediction

Reference 1 reported that the so called typical limit cycle oscillation (LCO) occurred during the flight test of F-16A Block 15 with the store configuration described in Table 3.1. The instability response was characterized by a gradual onset of sustained limited amplitude wing oscillations where the oscillation amplitude progressively increases with increasing Mach number and dynamic pressure (Ref 1). The measured oscillatory wing tip response during level flight at five altitude is shown in Figure 3.2. Reference 1 described that the dynamic aeroelastic characteristic of the configuration were well behaved. The instability response was anti-symmetric at a frequency of 7.8 Hz for all altitudes.

An attempt to predict this typical LCO case has been conducted by Denegri in Refs 1 and 18. The calculation was performed at  $M = 0.90$ . The aerodynamic model used in Refs 1 and 18 is an isolated wing with tip launcher only, *i.e.* the same as the aerodynamic model # 1 of the present work as shown in Fig 5.1. No aerodynamic modeling of fuselage, empennage and underwing stores is included. The only influence of the fuselage, empennage and stores considered in the flutter analysis is their effect on structural modal characteristics. The flutter calculation was conducted using the non-matched method. The critical speed and its frequency are  $V_f = 312$  KCAS and  $f_f = 8.1$  Hz for  $g = 0\%$ , and  $V_f = 312$  KCAS and  $f_f = 8.1$  Hz for  $g = 1\%$  (Ref 18). The result indicates that the flutter frequency was correlated well with the flight test data. However, the calculated flutter speed was lower than the flight test data.

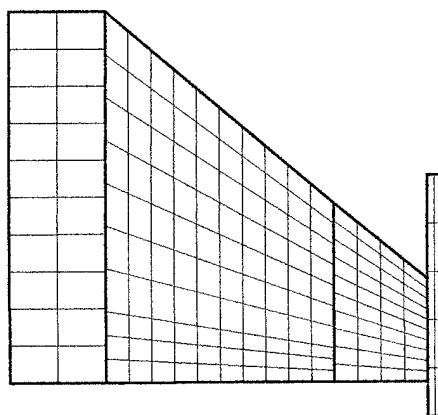


Figure 5.1 Aerodynamic Model # 1 for the typical LCO case



## 5.2. Linear Aerodynamic Approach

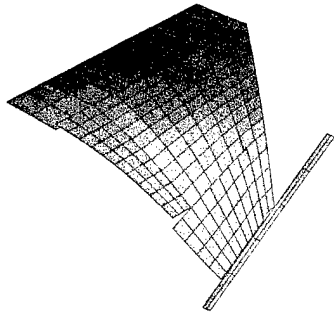
### 5.2.1 Aerodynamic Model # 1

The first aerodynamic model of the present work is the isolated wing with tip launcher (Figure 5.1), *i.e* the same as the model used in Refs 1 and 18. Figure 5.2 shows the first four natural (undamped) mode shapes. Employing a non-matched point flutter analysis of ZAERO at  $M=0.90$  and sea level density, the critical speed was found to be  $V_f = 347$  KCAS and flutter frequency was  $f_f = 8.08$  Hz for the structural damping  $g = 0\%$ . For the structural damping  $g = 1\%$ , the critical speed and frequency are  $V_f = 531$  KCAS and  $f_f = 8.09$  Hz, respectively. These results are very close to the analysis results in Refs 1 and 18 as shown in Table 5.1 and Fig 5.3. Figure 5.4 shows the flutter mode shape for  $V_f = 531$  KCAS at several time steps. The V-g and V-f plots of the present flutter analysis given in Fig 5.4 show similar results to Fig 12 of Ref 17.

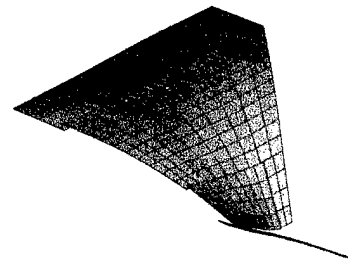
**Table 5.1 Flutter Results Using Linear Aerodynamics at  $M = 0.9$ .**

Aerodynamic Model or Methods		Flutter Speed (KCAS)	Flutter Frequency (Hz)
Flight test (on set of flutter speed)		530	7.8
Denegri's DLM results (Aerodynamic Model # 1: Wing + tip launcher only, non matched point)	$g = 0\%$	312	8.10
	$g = 1\%$	494	8.06
Aerodynamic Model # 1: Wing + tip launcher only, (non matched point)	$g = 0\%$	347	8.08
	$g = 1\%$	531	8.09
Aerodynamic Model # 2: Whole aircraft without underwing stores (matched point)	$g = 0\%$	413	8.01
	$g = 1\%$	492	8.00
Aerodynamic Model # 3: Whole aircraft with stores (matched point)	$g = 0\%$	482	7.96
	$g = 1\%$	593	7.91
Aerodynamic Model # 3: Whole aircraft with stores but without rigid body modes (matched point)	$g = 0\%$	483	7.96
	$g = 1\%$	601	7.91

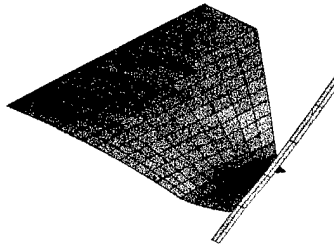




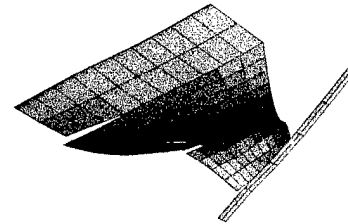
Mode 1 (7.89 Hz)



Mode 2 (8.15)



Mode 3 (10.06)



Mode 4 (10.31)

Figure 5.2 Vibration Modes of Aerodynamic Model # 2.

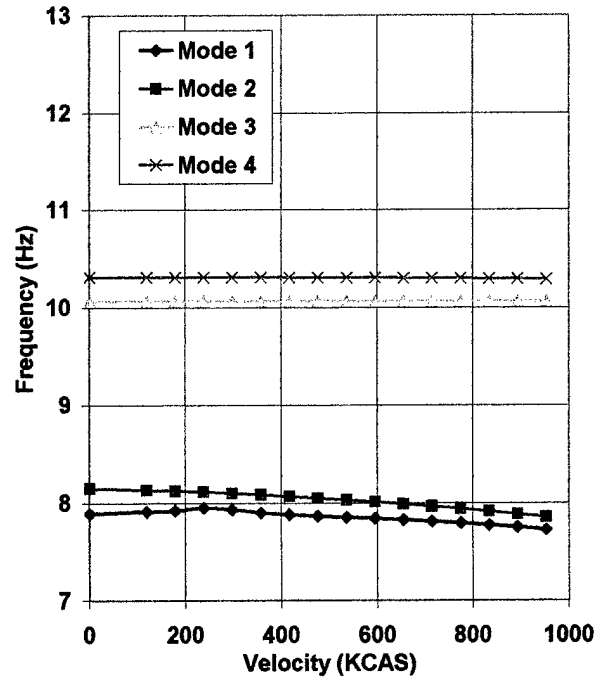
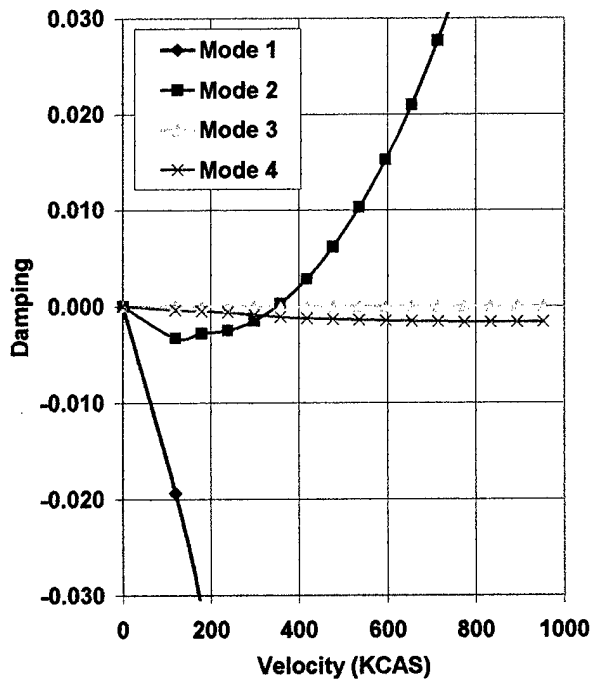
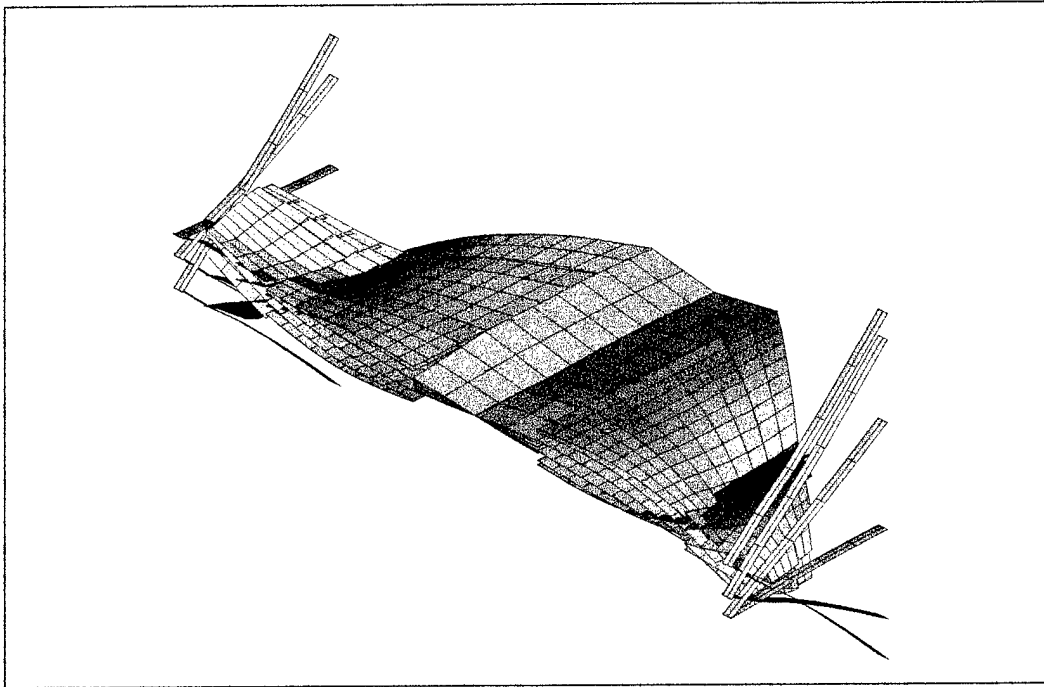


Figure 5.3 The Flutter V-G and V-F Plots for Wing-Tip Launcher Only Model at  $M = 0.9$  Using The Linear Aerodynamic Approach.



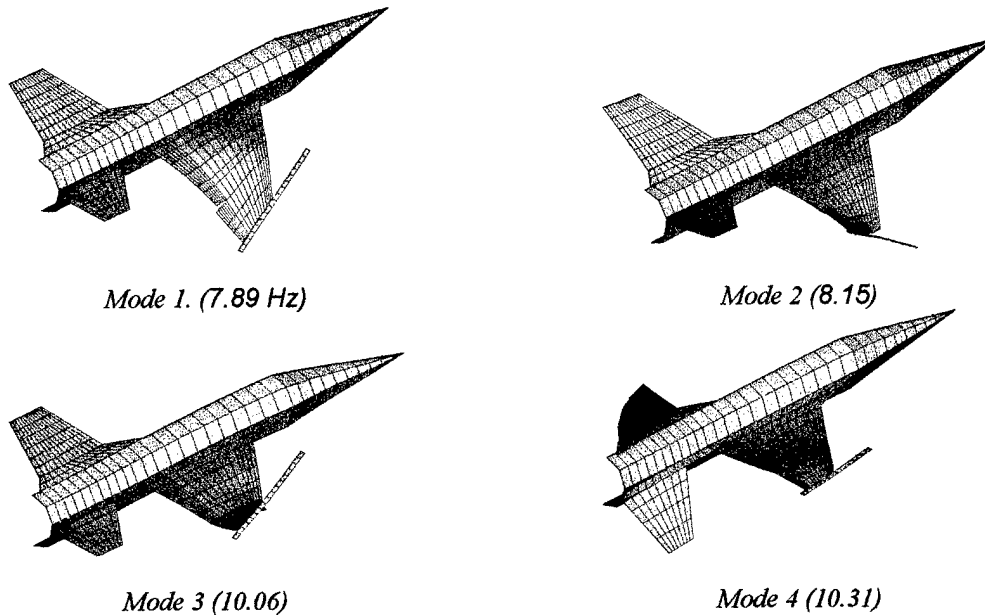


**Figure 5.4 The Flutter Mode Shape of The Wingtip Launcher Only Model.**



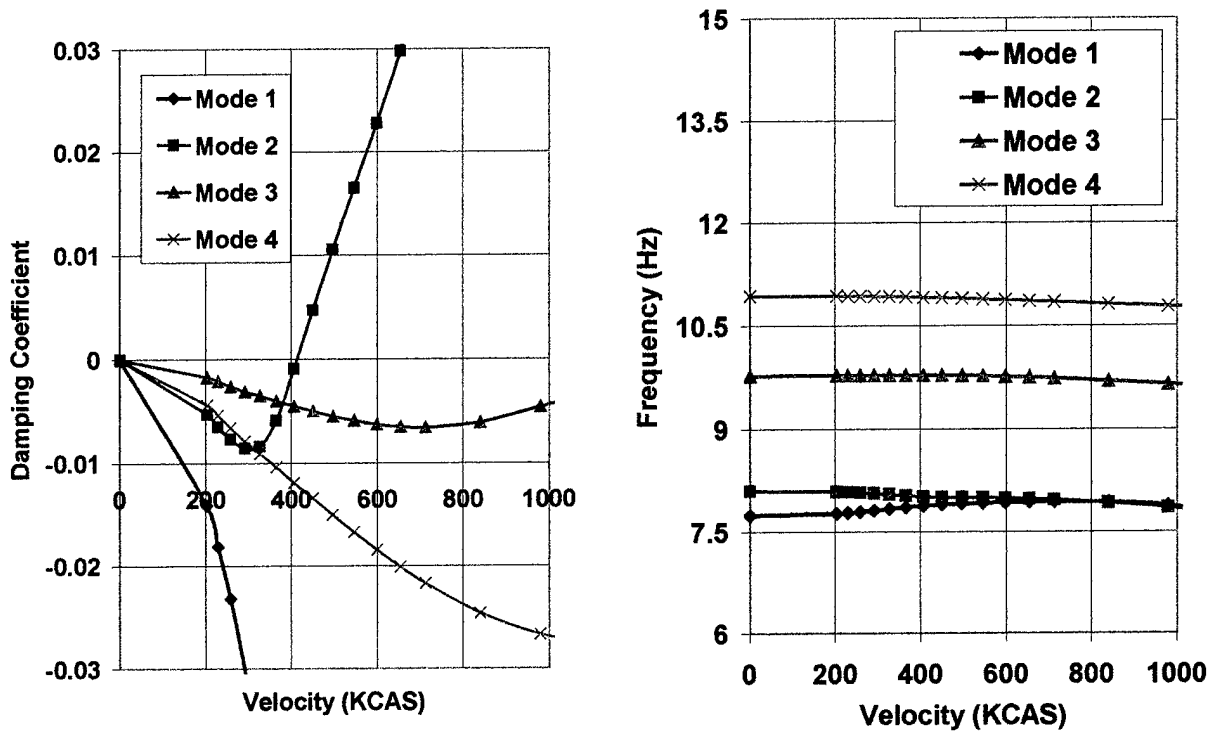
### 5.2.2. Aerodynamic Model # 2

The flutter calculation was repeated using the aerodynamic model # 2, i.e. the whole aircraft without underwing stores. The flutter calculation using the matched point method gave the flutter speed/frequency at  $V_f = 413$  KCAS /  $f_f = 8.09$  Hz for  $g = 0\%$ , and  $V_f = 492$  KCAS /  $f_f = 8.0$  Hz for  $g = 1\%$ . The result for this configuration shows that the inclusion of the fuselage and empennage aerodynamic model improves the result, i.e. closer to the flight test data.

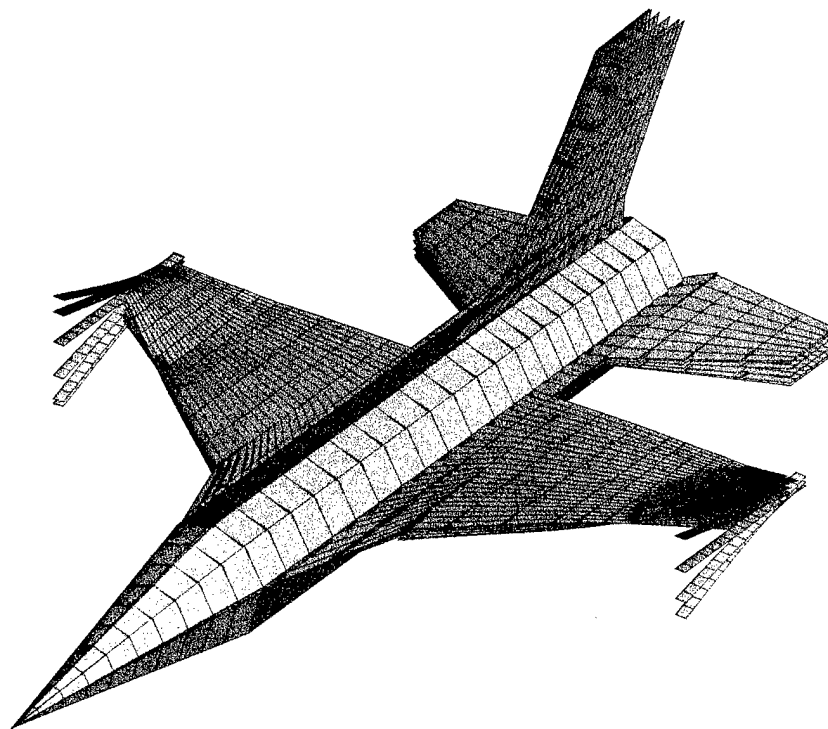


**Figure 5.5** Vibration Modes of the Aircraft Model without Underwing Stores.





**Figure 5.6 The Flutter V-G and V-F Plots for the Whole Aircraft Model without Underwing Stores at  $M = 0.9$  Using the Linear Aerodynamic Approach.**



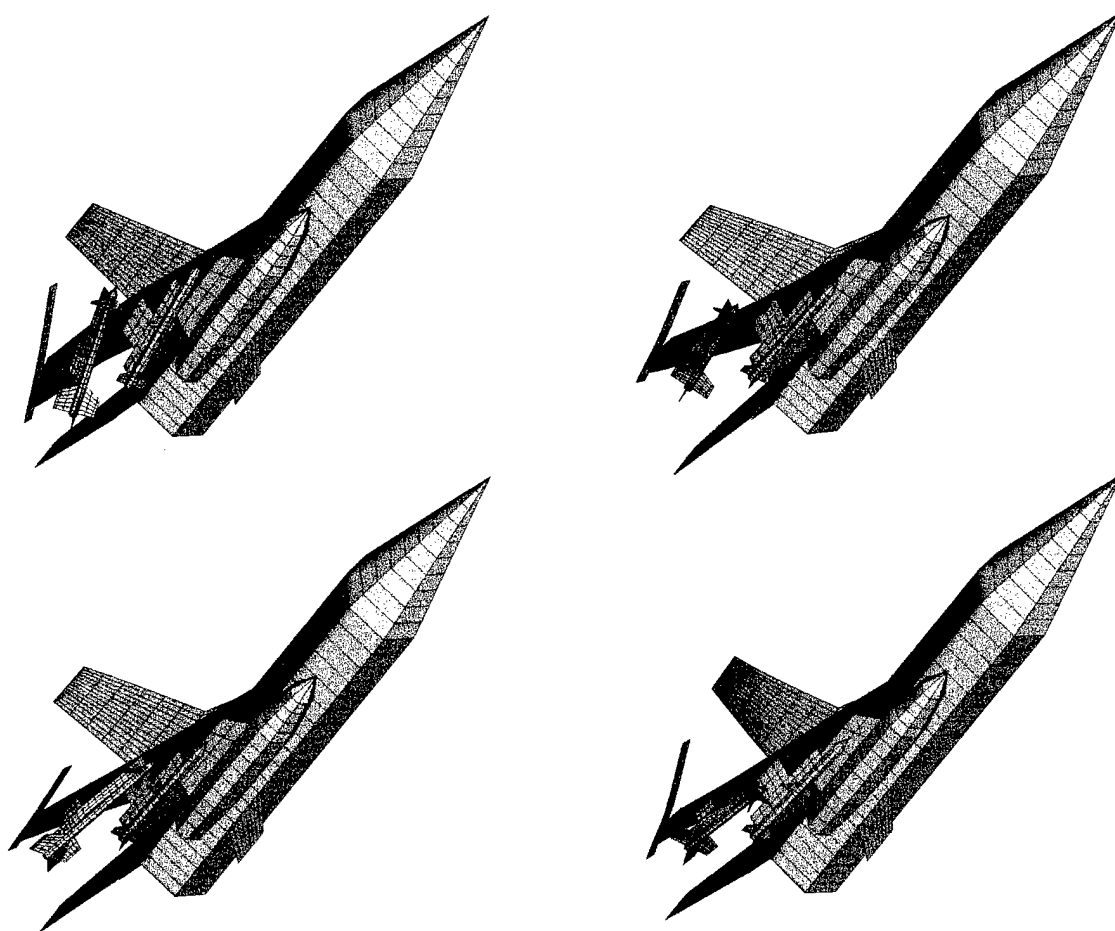
**Figure 5.7 The Flutter Mode Shape of the Aircraft Model without Underwing Stores.**



### 5.2.3. Aerodynamic Model # 3 at $M = 0.90$

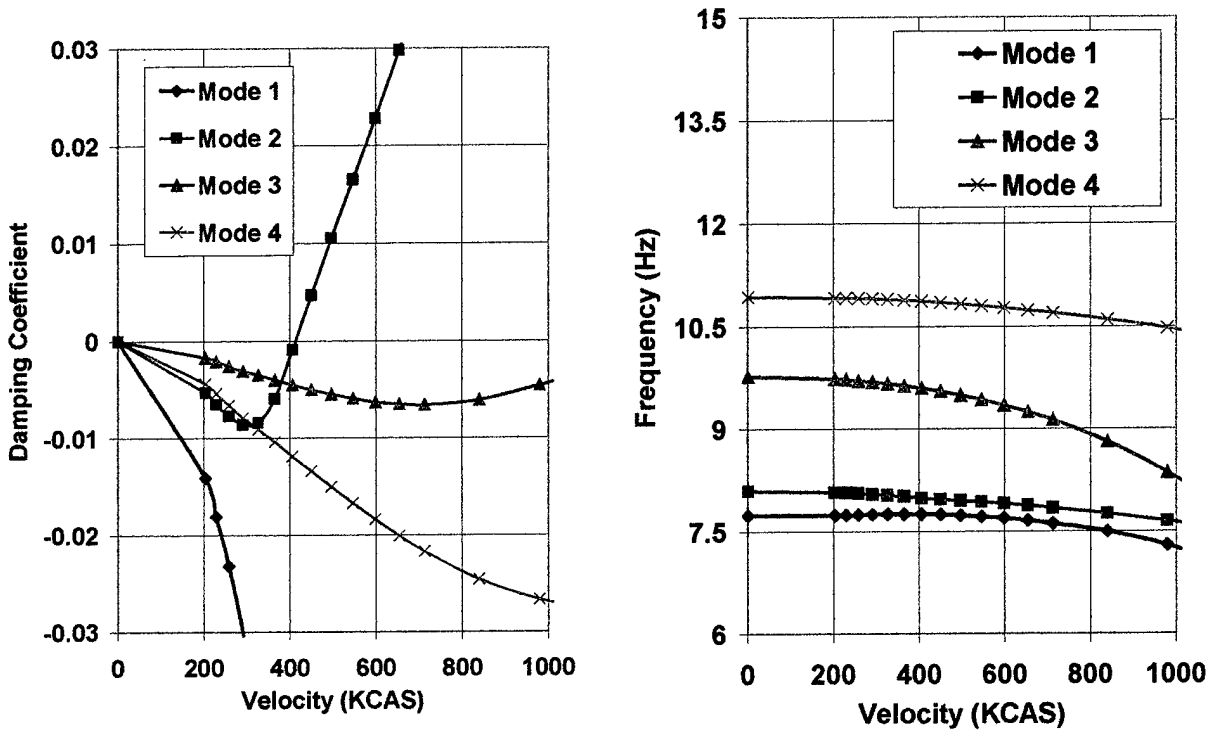
The flutter calculation was repeated using the aerodynamic model # 3, i.e. the whole aircraft with underwing stores. The natural mode shapes are shown in Figure 5.8. The flutter calculation using the matched point method gave the flutter speed/frequency at  $V_f = 483$  KCAS /  $ff = 7.96$  Hz. If the structural damping is assumed to be  $g = 1.0\%$  than the flutter speed and frequency becomes  $V_f = 601$  KCAS and  $ff = 7.91$  Hz.

All of the previous calculations on the typical LCO case did not include the structural rigid body modes. If the anti-symmetric rigid body modes are included to the whole aircraft with store model, the similar procedures gave the flutter speed / frequency at  $V_f = 482$  KCAS /  $ff = 7.96$  Hz for  $g=0\%$ , and  $V_f = 593$  KCAS /  $ff = 7.91$  Hz for  $g = 1.0\%$ . These results are very close to the results of the model without rigid body modes. Therefore, for the typical LCO of the present case, the influence of the rigid body modes is not significant. Figure 5.9 shows the flutter v-g and V-f diagram for the aerodynamic model # 3. The flutter modes for several time steps is presented in Fig 5.10.

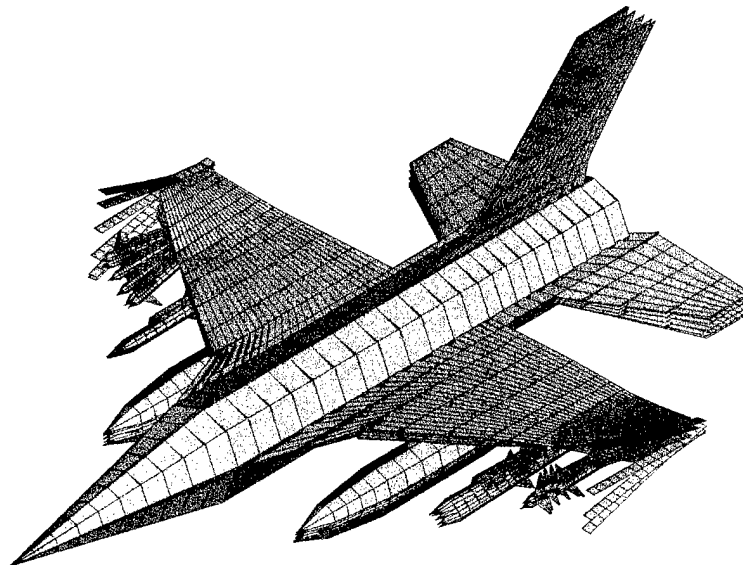


**Figure 5.8 Vibration Modes of the Aircraft Model with Underwing Stores**





**Figure 5.9 The Flutter V-g and V-f plots of the Whole Aircraft Model with Underwing Stores at  $M = 0.9$  Using the Linear Aerodynamic Approach.**



**Figure 5.10 The Flutter Mode Shape of the Whole Aircraft Model with Underwing Stores At  $M = 0.9$ .**



### 5.2.5. Aerodynamic Model # 3 at Mach 0.8 – 1.05

The flutter calculations for  $M = 0.90$  showed improvement on the solution results if a more refined aerodynamic model is used. However, previous results does not give a direct correlation between the flutter prediction and the flight test data. Note that, to indicate the flutter onset, the flight test data presents the measure acceleration response level in terms of Mach numbers and altitudes. Therefore, in order to correlate the numerical predictions with the flight test data, the calculation was repeated for several Mach numbers, including  $M = 0.80, 0.90, 0.95, 0.98$ , and  $1.05$ . The flutter solution is represented by the damping coefficient as a function of Mach number for each altitude. The critical speed and frequency for each Mach number are given in Table 5.2. Note that the correlation of the flutter prediction with the altitude is automatically generated by using the matched point option of the g-method.

The results presented in Fig 5.11. indicates that :

- at sea level, the linear aerodynamic approach gives a lower mach number than onset mach number of the flight test LCO data.
- at higher altitudes, the linear aerodynamic approach gives a higher mach number than the flight test data.

**Table 5.2 Critical Speed and Frequency Using the Linear Aerodynamic Approach (ZONA6/ZONA7)**

<i><b>Mach Number</b></i>	<i><b>Damping Coeff. g (%)</b></i>	<i><b>Flutter Speed (KCAS)</b></i>	<i><b>Flutter Frequency (Hz)</b></i>
<b>0.80</b>	0.0	534	7.95
	1.0	654	7.90
<b>0.90</b>	0.0	482	7.96
	1.0	593	7.91
<b>0.95</b>	0.0	431	7.97
	1.0	541	7.92
<b>0.98</b>	0.0	429	7.96
	1.0	526	7.92
<b>1.05</b>	0.0	450	7.93
	1.0	522	7.89



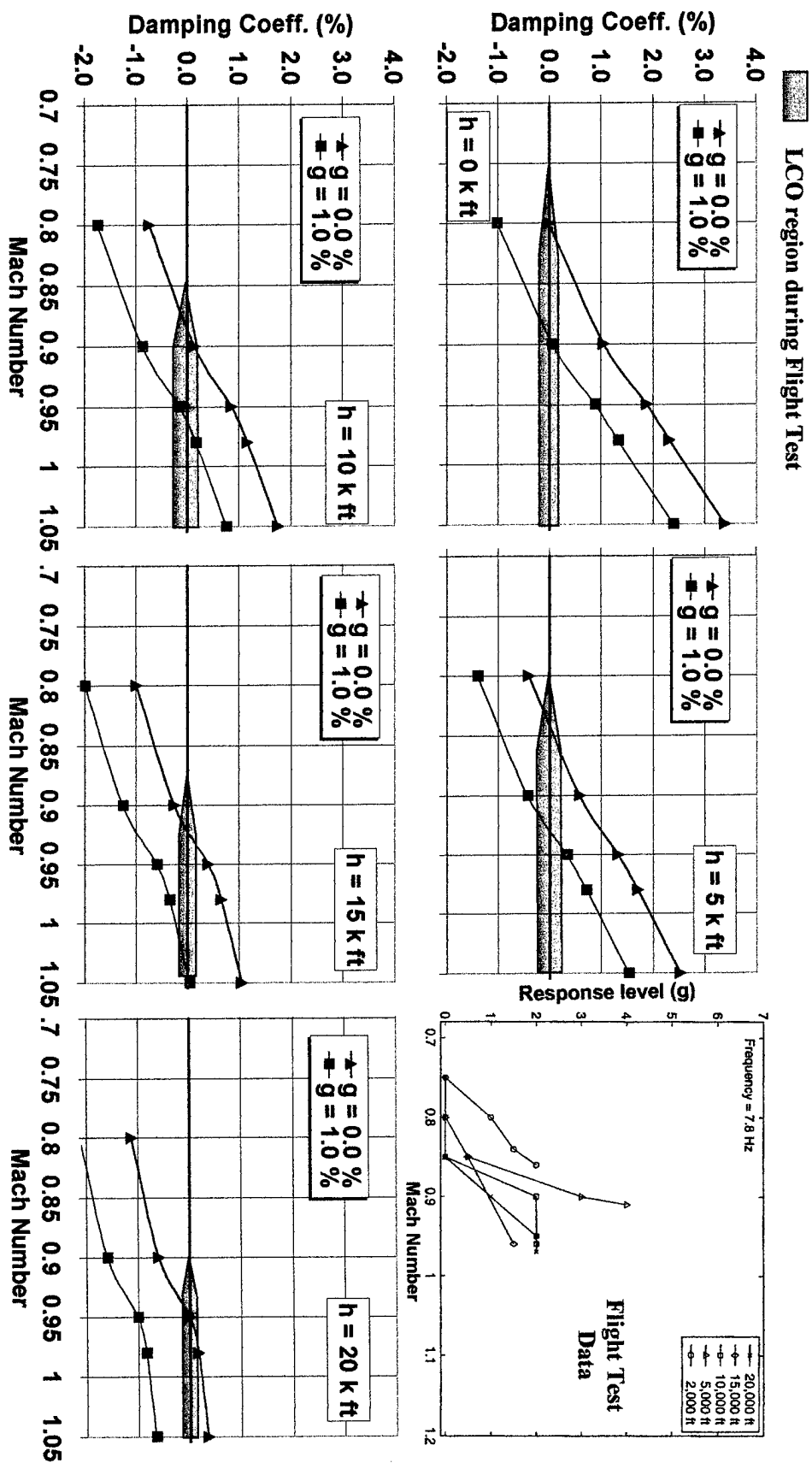


Fig 5.11 Correlation between the Flutter Prediction Using the Linear Aerodynamic Approach (ZONA6/ZONA7) with Flight Test Data.



### 5.3. Nonlinear Aerodynamic Approach

The flight test for the typical LCO configuration indicated that the aeroelastic instability for this case occurred between 0.75 and 1.1, *i.e.* in transonic regime where the nonlinear behavior of the aerodynamic flow may significantly influence the critical speed. To investigate the flutter calculation in this transonic regime, a nonlinear aerodynamic approach based on the ZTAIC method was used for the prediction of the unsteady aerodynamic data. The steady aerodynamic data was provided by Denegri of Eglin Airforce Base as shown in Section 3. Flutter calculation was conducted to the whole aircraft with stores for Mach numbers ranging between 0.80 and 1.05. The rigid body modes were included in the structural dynamic calculations.

#### 5.3.1 Aerodynamic Model # 3 at $M = 0.90$

The flutter calculation for  $M = 0.90$  using the matched point method gave the flutter speed/frequency at  $V_f = 468$  KCAS /  $f_f = 7.97$  Hz. Note that there is no second critical speed in this third model. If the structural damping is assumed to be  $g = 1.0\%$ , the flutter speed and frequency becomes  $V_f = 588$  KCAS and  $f_f = 7.93$  Hz. Compare to the results based on the linear aerodynamic approach given in Table 5.1, the present result using the nonlinear aerodynamic approach is closer to the flight test data. Figure 5.12 shows the V-g and V-f plot for Mach 0.90. The associated flutter mode is presented in Fig 5.13.

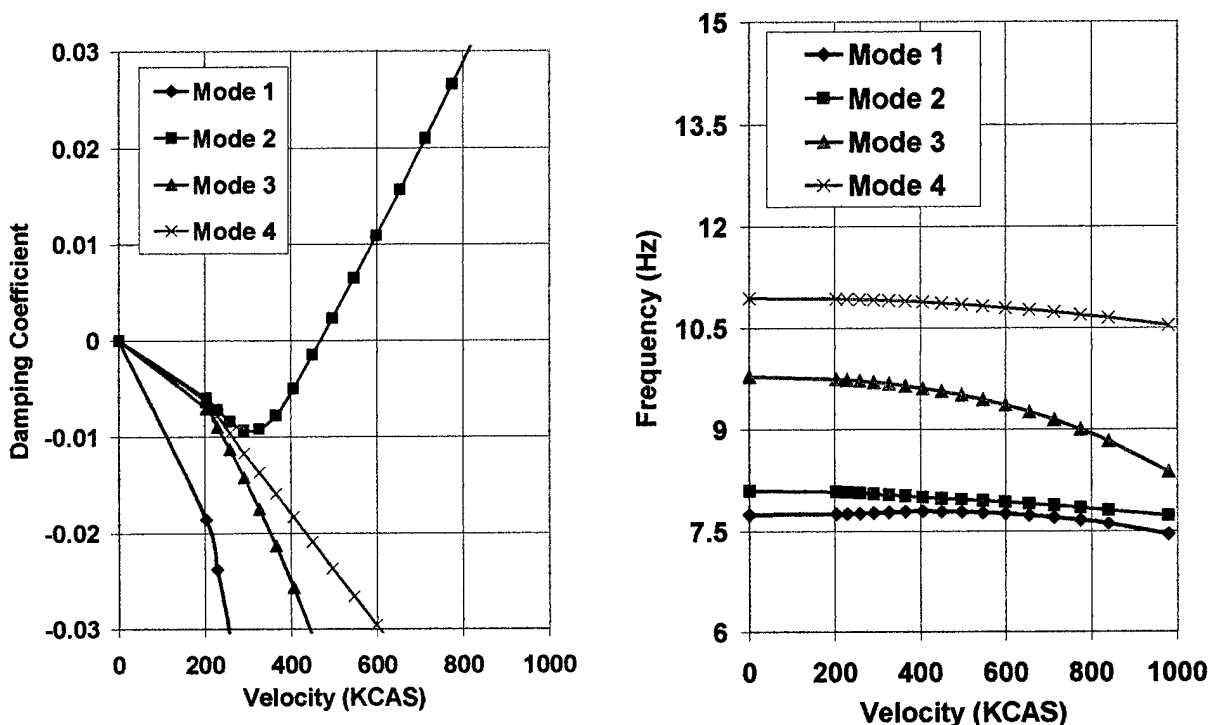
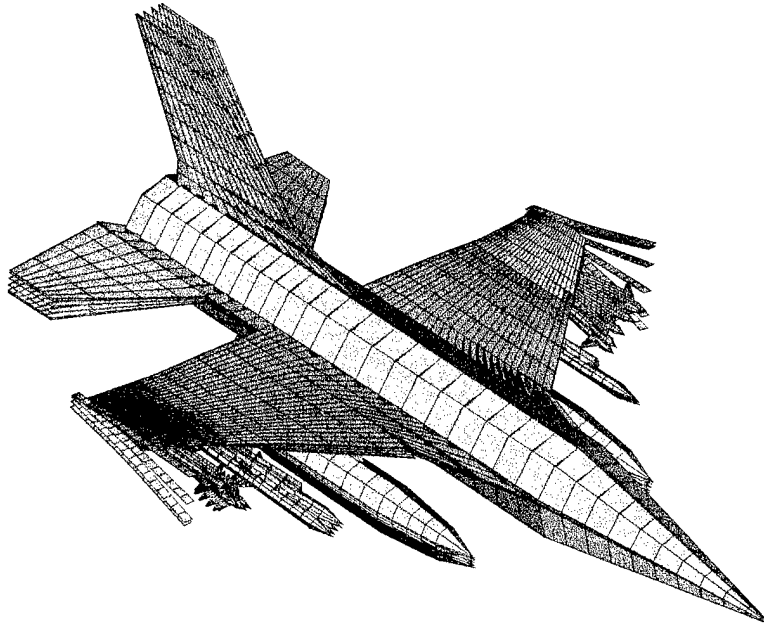


Figure 5.12 The Flutter V-G and V-F Plots of the Whole Aircraft Model with Underwing Stores at  $M = 0.9$  Using the Nonlinear Aerodynamic Approach.





**Figure 5.13 The Flutter Mode Shape of the Whole Aircraft Model with Underwing Stores at  $M = 0.9$  Calculated Using the Non Linear Aerodynamic Method**

### **5.3.2. Aerodynamic Model # 3 at $M = 0.80 - 1.05$**

In order to correlate the numerical predictions with the flight test data, the calculation for the nonlinear aerodynamic approach was repeated for several Mach numbers, namely  $M = 0.80$ ,  $0.90$ ,  $0.95$ ,  $0.98$ , and  $1.05$ . The flutter solution is represented by the damping coefficient and Mach number as well as the altitudes. The critical speed and frequency for each Mach number are given in Table 5.3. The results presented in Fig 5.15 shows that:

- ZTAIC predicts non-explosive damping of the unstable modes for all altitudes.
- In the post-flutter region, it is very likely that the nonlinearity-induced stable damping (from either the structures or aerodynamics, if any) can nullify the unstable damping and stop the growth of the amplitude, leading to LCO.
- Similar to the classical flutter case, the on-set of LCO is very sensitive to the linear structural damping level.



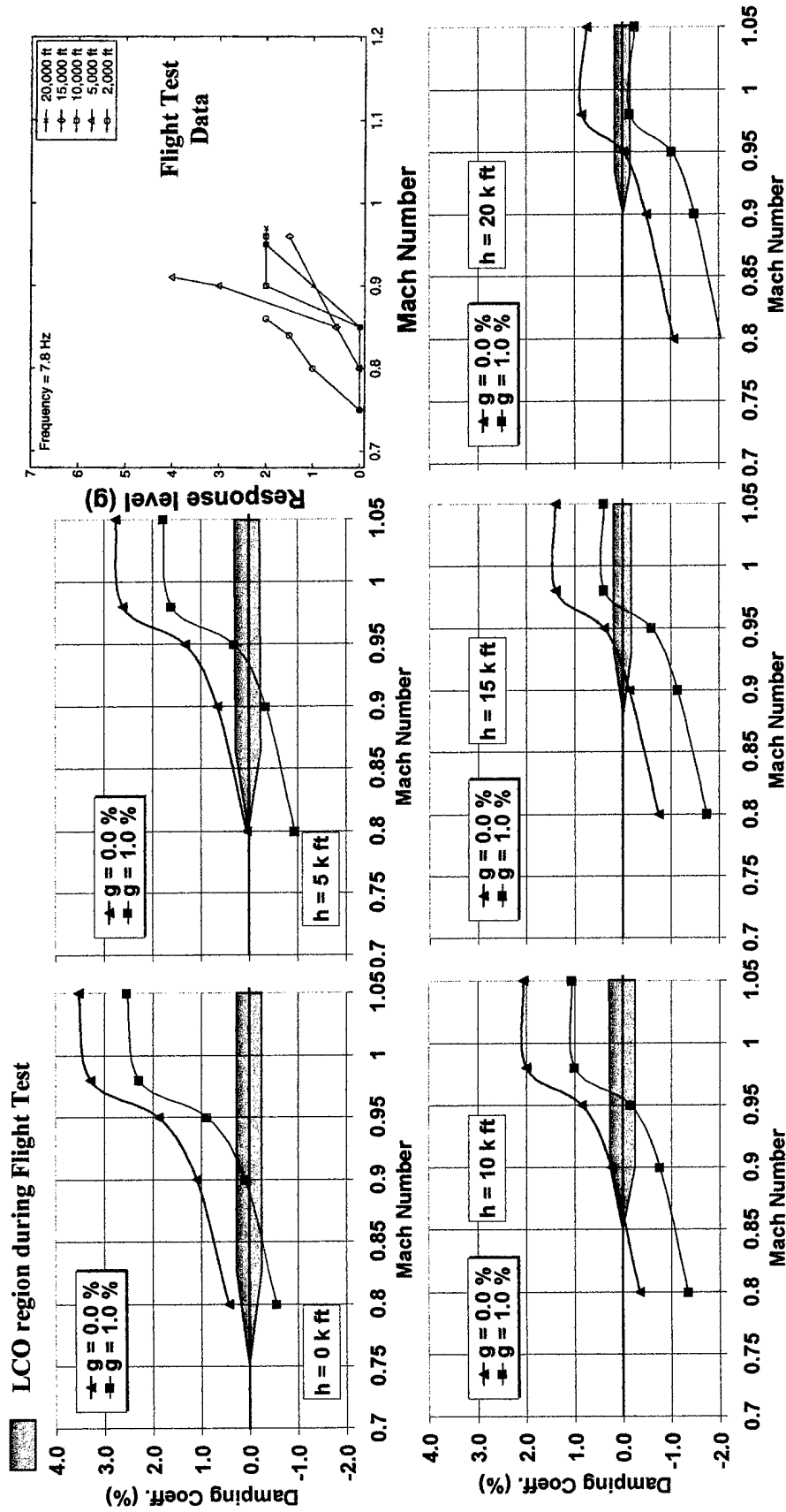


Figure 5.14 The Correlation between the Flutter Prediction using the Nonlinear Aerodynamic Approach (ZTAIC) and the Flight Test Data.



**Table 5.3 Critical speed and Frequency Using the Nonlinear  
Aerodynamic Approach (ZTAIC).**

<i><b>Mach Number</b></i>	<i><b>Damping Coeff. g (%)</b></i>	<i><b>Flutter Speed (KCAS)</b></i>	<i><b>Flutter Frequency (Hz)</b></i>
<b>0.80</b>	0.0	480	7.97
	1.0	606	7.95
<b>0.90</b>	0.0	468	7.97
	1.0	588	7.93
<b>0.95</b>	0.0	409	7.99
	1.0	525	7.95
<b>0.98</b>	0.0	372	8.00
	1.0	455	7.98
<b>1.05</b>	0.0	422	7.94
	1.0	494	7.92



## SECTION 6

### CORRELATION OF THE F-16 / STORE NON-TYPICAL LCO PREDICTIONS WITH FLIGHT TEST DATA

#### 6.1 Flight Test Result and Previous Numerical Prediction

Reference 1 described that a non-typical LCO response occurred during the flight test of F-16 with the store configurations shown in Table 3.1. The instability response was characterized by a gradual onset of sustained limited amplitude wing oscillations where the oscillation amplitude does not progressively increase with increasing Mach number (Ref 1). The oscillation may be present only in a limited portion of the flight envelope. The measured oscillatory wing tip response during level flight at five altitude is shown in Figure 3.3. The response behavior of this configuration was only sensitive in 0.88 – 0.94 Mach range. The instability response was antisymmetric at a frequency of 8.2 Hz for all altitudes.

An attempt to predict this non-typical LCO case has been conducted by Denegri in Refs 1 and 18. The calculation was performed at  $M = 0.90$ . The aerodynamic model used in Refs 1 and 18 is an isolated wing with tip launcher only, *i.e.* the same as the aerodynamic model # 1 of the present work as shown in Fig 6.1. No aerodynamic modeling of fuselage, empennage and underwing stores is included. The only influence of the fuselage, empennage and stores considered in the flutter analysis is their effect on structural modal characteristics. The flutter calculation was conducted using the non-matched point method. The critical speed and frequency are  $V_f = 393$  KCAS and  $f_f = 8.26$  Hz for the structural damping  $g = 0\%$ . The result indicates that the flight test frequency is well correlated with the critical mode frequency. However, the calculated critical speed was higher than the flight test data as shown in Table 4.1

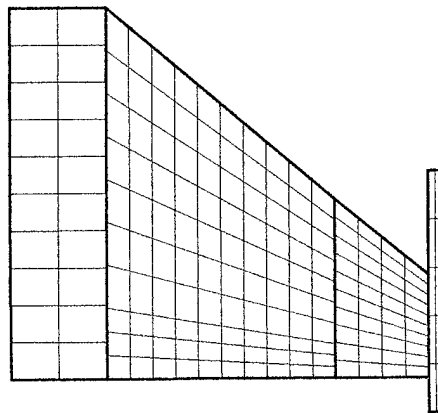


Figure 6.1 Aerodynamic Model # 1 for the Nontypical LCO case



## 6.2 Linear Aerodynamic Approach

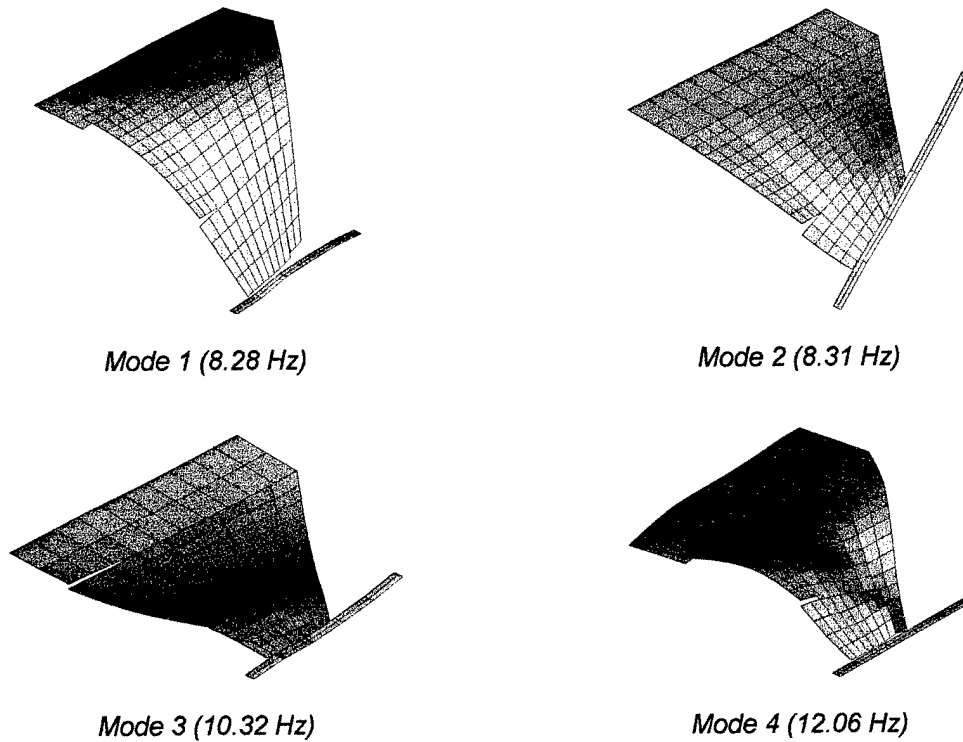
### 6.2.1 Aerodynamic Model # 1

The first aerodynamic model of the present work is the isolated wing with tip launcher (Figure 6.1), *i.e* the same as the model used in Ref 17. Figures 6.2 show the first four natural (undamped) mode shapes. Employing a non-matched point flutter analysis of ZAERO at  $M=0.90$  and sea level density, the critical speed was found to be  $V_f = 403$  KCAS and flutter frequency was  $f_f = 8.24$  Hz for the structural damping  $g = 0\%$ . For the structural damping  $g = 1\%$ , the critical speed and frequency are  $V_f = 602$  KCAS and  $f_f = 8.21$  respectively. These results are very close to the analysis results in Refs 1 and 18 as shown in Table 6.1 and Fig 6.3. Figure 6.4 shows the flutter mode shape at several time steps. The V-g and V-f plots of the present flutter analysis given in Fig 6.4 show similar results to Fig 12 of Ref 17.

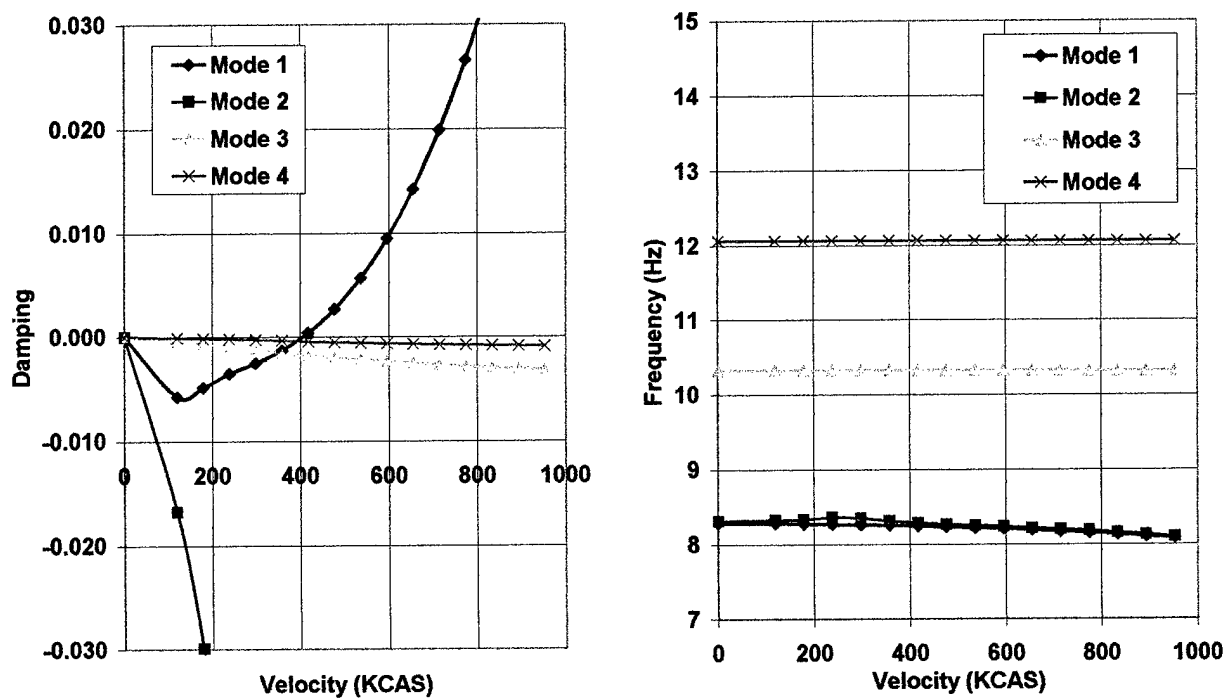
**Table 6.1 Flutter Results Using Linear Aerodynamics at  $M = 0.9$ .**

Aerodynamic Model or Methods		Flutter Speed (KCAS)	Flutter Frequency (Hz)
Flight test (on set of flutter speed)		560	8.2
Denegri's DLM results (Aerodynamic Model # 1: Wing + tip launcher only, non matched point, $g = 0\%$ )		393	8.26
Aerodynamic Model # 1: Wing + tip launcher only, (non matched point)	$g = 0\%$	403	8.24
	$g = 1\%$	602	8.21
Aerodynamic Model # 2: Whole aircraft without underwing stores (matched point)	$g = 0\%$	508	8.22
	$g = 1\%$	678	8.18
Aerodynamic Model # 3: Whole aircraft with stores (matched point)	$g = 0\%$	471	8.18
	$g = 1\%$	690	8.08
Aerodynamic Model # 3: Whole aircraft with stores but without rigid body modes (matched point)	$g = 0\%$	642	8.13
	$g = 1\%$	796	8.03



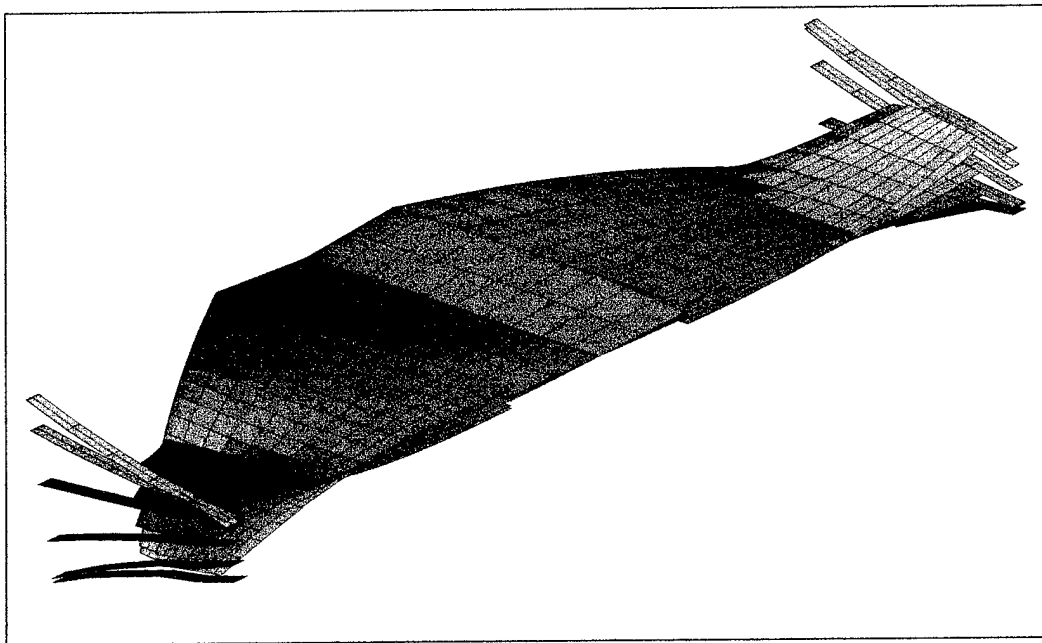


**Figure 6.2** Vibration Modes of Aerodynamic Model # 1.



**Figure 6.3** The Flutter V-g and V-f plots for Wing-tip Launcher Only Model at  $M = 0.9$  Using the Linear Aerodynamic Approach.



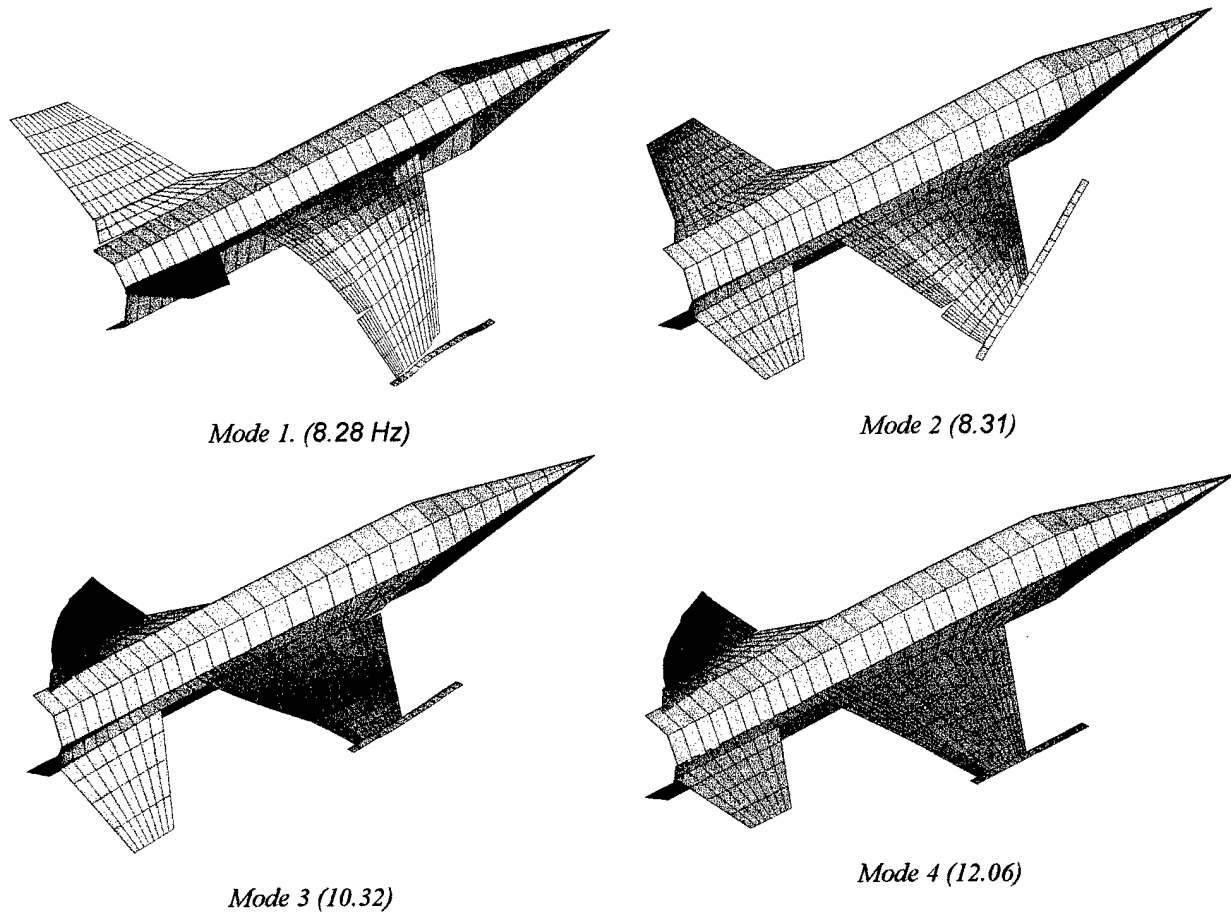


**Figure 6.4 The Flutter Mode Shape of the Wing-Tip Launcher Only Model.**



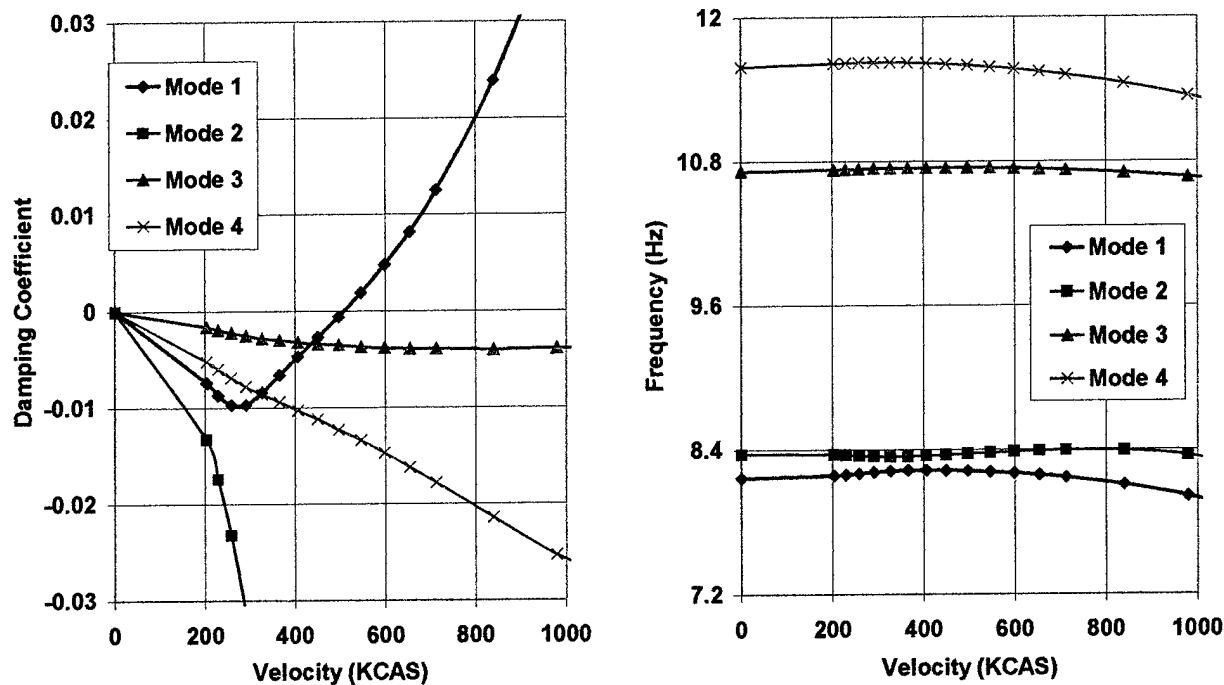
### 6.2.2 Aerodynamic Model # 2

The flutter calculation was repeated using the aerodynamic model # 2, i.e. the whole aircraft without underwing stores. The flutter calculation using the matched point method gave the flutter speed/frequency at  $V_f = 508$  KCAS /  $f_f = 8.22$  Hz. If the structural damping is assumed to be  $g = 1.0\%$ , then the flutter speed and frequency becomes  $V_f = 678$  KCAS and  $f_f = 8.18$  Hz. The result for this configuration shows that the inclusion of the fuselage and empennage aerodynamic model improves the result, i.e. closer to the flight test data.

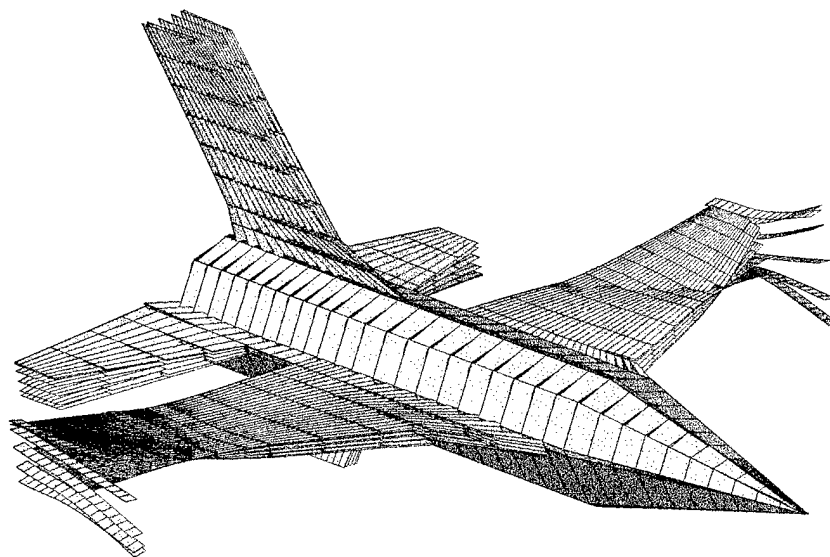


**Figure 6.5** Vibration Modes of the Aircraft Model without Underwing Stores.





**Figure 6.6 The Flutter V-g and V-f Plots for the Whole Aircraft Model without Underwing Stores at M = 0.9 Using The Linear Aerodynamic Approach.**



**Figure 6.7 The Flutter Mode Shape of the Aircraft Model without Underwing Stores**

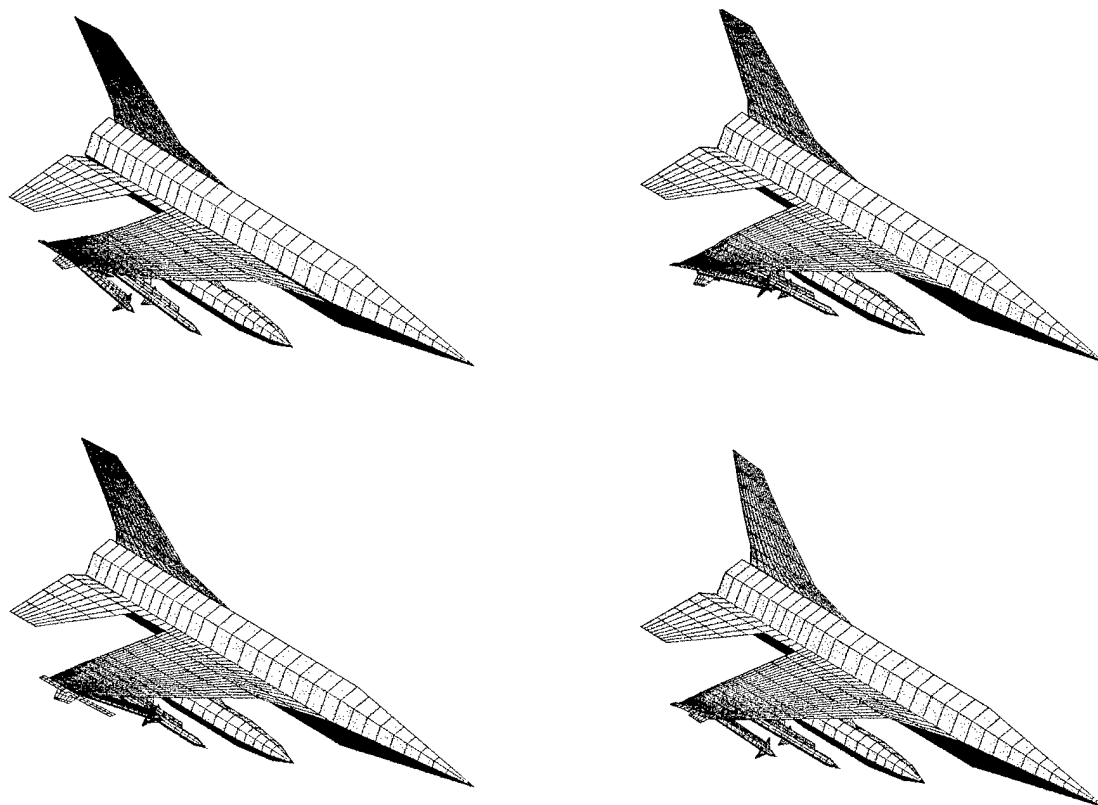
### 6.2.3 Aerodynamic Model # 3 at M = 0.90

The flutter calculation was repeated using the aerodynamic model # 3, i.e. the whole aircraft with underwing stores. The natural mode shapes are shown in Figure 6.8. The flutter calculation



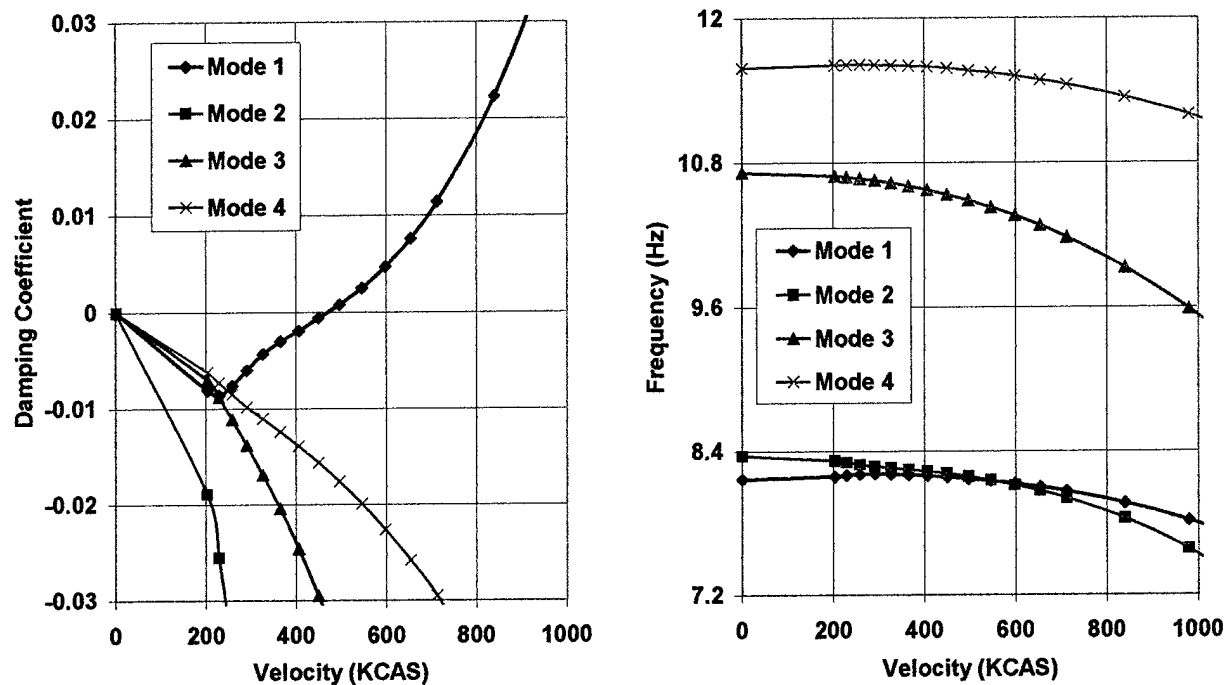
using the matched point method gave the flutter speed/frequency at  $V_f = 642$  KCAS /  $f_f = 8.13$  Hz. Note that there is no second critical speed in this third model. If the structural damping is assumed to be  $g = 1.0\%$  than the flutter speed and frequency becomes  $V_f = 796$  KCAS and  $f_f = 8.03$  Hz. Clearly, the result for this configuration is closer to the flight test data as shown in Table 6.1.

All of the previous calculations on the non-typical LCO did not include the structural rigid body modes. If the anti-symmetric rigid body modes are included to the whole aircraft with store model, the similar procedures gave the flutter speed / frequency at  $V_f = 471$  KCAS /  $f_f = 8.18$  Hz for  $g=0\%$ , and  $V_f = 690$  KCAS /  $f_f = 8.08$  Hz for  $g = 1.0\%$ . These results are very close to the results of the model without rigid body modes. Therefore, for the classical flutter of the present case, the influence of the rigid body modes is not significant. Figure 6.9 shows the flutter V-g and V-f diagram for the aerodynamic model # 3. The flutter modes for several time steps is presented in Fig 6.10.

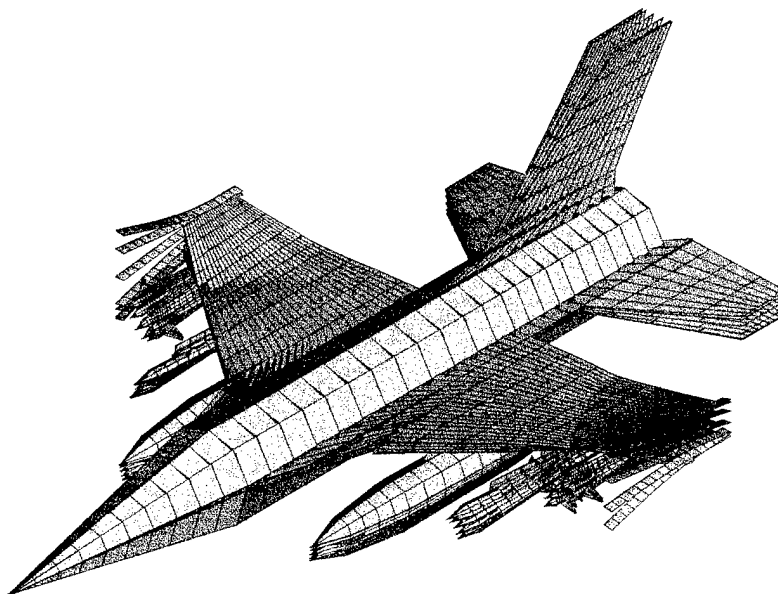


**Figure 6.8 Vibration Modes of the Aircraft Model with Underwing Stores.**





**Figure 6.9 The Flutter V-g and V-f plots of the Whole Aircraft Model with Underwing Stores at  $M = 0.9$  Using the Linear Aerodynamic Approach.**



**Figure 6.10 The Flutter Mode Shape of the Whole Aircraft Model with Underwing Stores at  $M = 0.9$ .**



#### 6.2.4 Aerodynamic Model # 3 at Mach 0.8 – 1.05

The flutter calculations for  $M = 0.90$  showed improvement on the solution results if a more refined aerodynamic model is used. However, previous results does not give a direct correlation between the flutter prediction and the flight test data. Note that, to indicate the flutter onset, the flight test data presents the measure acceleration response level in terms of Mach numbers and altitudes. Therefore, in order to correlate the numerical predictions with the flight test data, the calculation was repeated for several Mach numbers, namely  $M = 0.80, 0.90, 0.95, 0.98$ , and  $1.05$ . The flutter solution is represented by the damping coefficient as a function of Mach number for each altitude. The critical speed and frequency for each Mach number are given in Table 6.2. The results presented in Fig 6.11. shows that

- Linear aerodynamic approach (ZONA6/ZONA7) predicts non-explosive damping of the unstable mode in all altitudes.
- For the altitude lower than 15,000 ft, the flutter onset Mach number of the flight test data was correlated very well with the linear aerodynamic approach if the structural damping is assumed to be 1%.
- For the altitude of 15,000 ft and higher, the onset Mach number of the flight test data was occurred near  $M = 0.98$  and  $1.02$  where the nonlinearity effect of the transonic aerodynamic is significant. Therefore, the linear aerodynamic approach gives a higher prediction of the onset Mach number for these altitudes.

**Table 6.2 Critical Speed and Frequency Using ZONA6/ZONA7  
(Linear Aerodynamic Approach).**

<i>Mach Number</i>	<i>Damping Coeff. g (%)</i>	<i>Flutter Speed (KCAS)</i>	<i>Flutter Frequency (Hz)</i>
<b>0.80</b>	0.0	576	8.15
	1.0	778	8.03
<b>0.90</b>	0.0	571	8.17
	1.0	615	8.08
<b>0.95</b>	0.0	451	8.17
	1.0	656	8.08
<b>0.98</b>	0.0	474	8.17
	1.0	660	8.08
<b>1.05</b>	0.0	376	8.20
	1.0	573	8.11



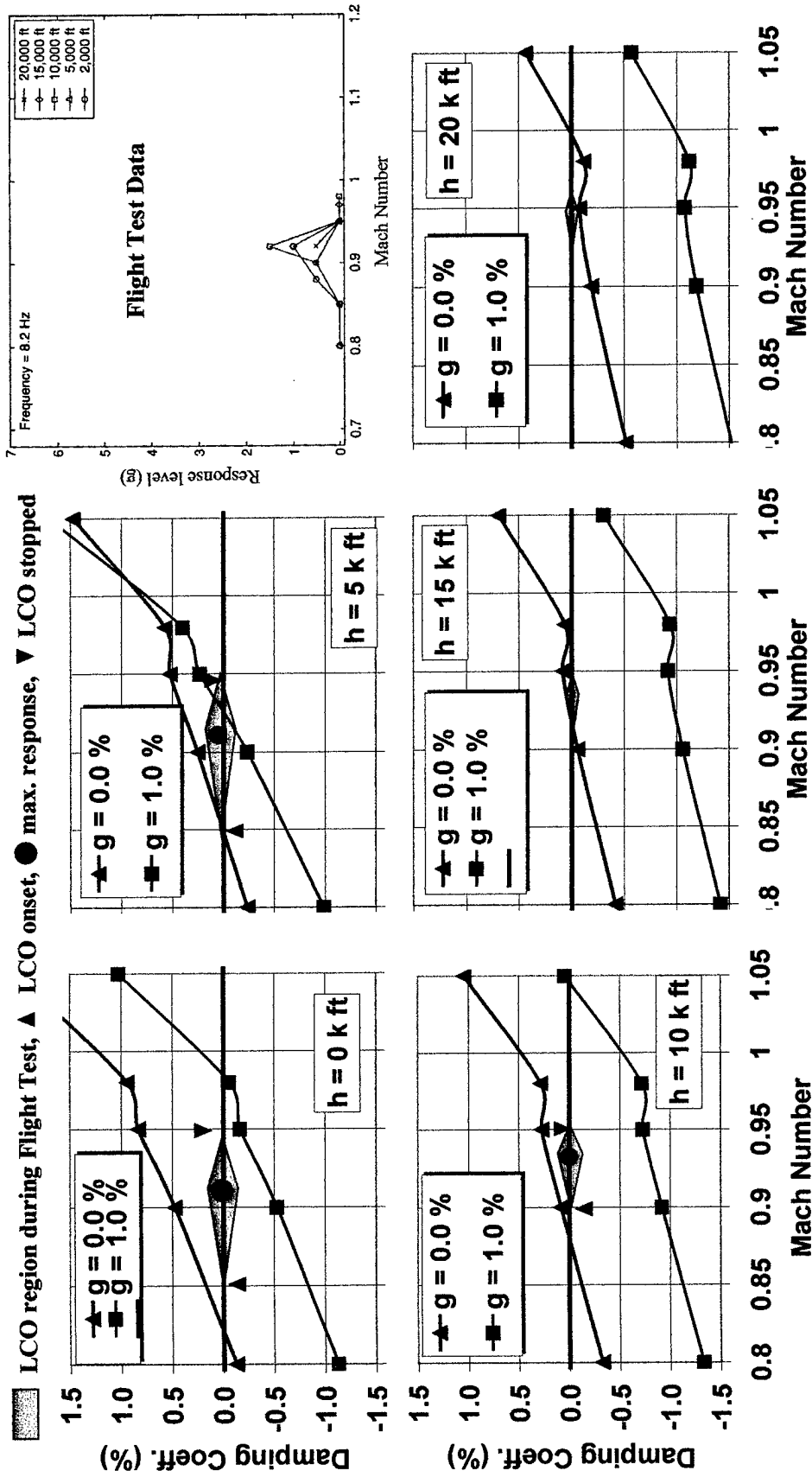


Figure 6.11 Correlation between the Flutter Prediction using the Linear Aerodynamic Approach (ZONA6/ZONA7) with Flight Test Data of the Classical Flutter Case.



### 6.3 Nonlinear Aerodynamic Approach

The flight test for the non-typical LCO configuration indicated that the aeroelastic instability for this case occurred between 0.85 and 1.1, *i.e.* in transonic regime where the nonlinear behavior of the aerodynamic flow may significantly influence the critical speed. To investigate the flutter calculation in this transonic regime, a nonlinear aerodynamic approach based on the ZTAIC method was used for the prediction of the unsteady aerodynamic data. The steady aerodynamic data was provided by Ref 20 as shown in section 3. Flutter calculation was conducted to the whole aircraft with stores for Mach numbers ranging between 0.80 and 1.05. The rigid body modes were included in the structural dynamic calculations.

#### 6.3.1 Aerodynamic Model # 3 at $M = 0.90$

The flutter calculation for  $M = 0.90$  using the matched point method gave the flutter speed/frequency at  $V_f = 630$  KCAS /  $f_f = 8.16$  Hz. If the structural damping is assumed to be  $g = 1.0\%$ , the flutter speed and frequency becomes  $V_f = 595$  KCAS and  $f_f = 8.18$  Hz. Compared to the results based on the linear aerodynamic approach given in Table 6.1, the present result using the nonlinear aerodynamic approach is closer to the flight test data. Figure 6.12 shows the V-g and V-f plot for Mach 0.90. The associated flutter mode is presented in Fig 6.13.

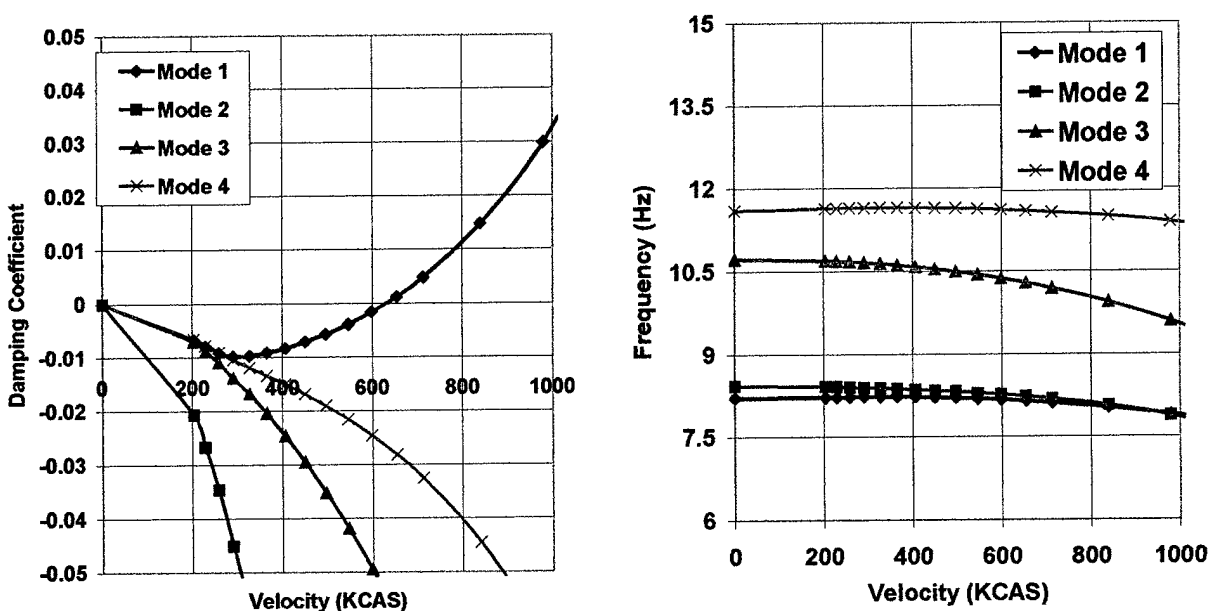
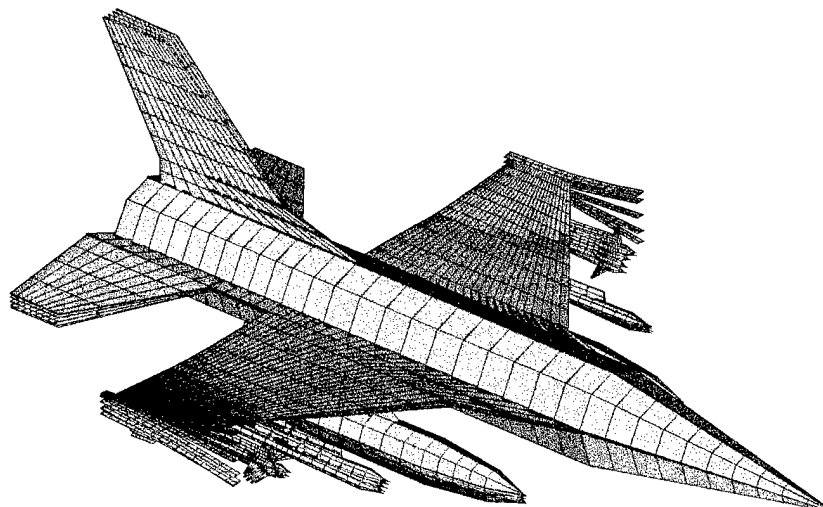


Figure 6.12 The Flutter V-g and V-f Plots of the Whole Aircraft Model with Underwing Stores at  $M = 0.9$  Using the Nonlinear Aerodynamic Approach.





**Figure 6.13 The Flutter Mode Shape of the Whole Aircraft Model with Underwing Stores at  $M = 0.9$  Calculated Using the Non Linear Aerodynamic Method.**

### **6.3.2 Aerodynamic Model # 3 at $M = 0.80 - 1.05$**

In order to correlate the numerical predictions with the flight test data, the calculation for the nonlinear aerodynamic approach was repeated for several Mach numbers, namely  $M = 0.80$ ,  $0.90$ ,  $0.95$ ,  $0.98$ , and  $1.05$ . The rigid body modes were included in the calculations. Figure 6.14 shows the flutter solution represented by the damping coefficient as a function of Mach number for several altitudes. Table 6.3 shows the critical speed and frequency for each Mach number. The results presented in Fig 6.14. indicate that:

- ZTAIC, i.e. the nonlinear aerodynamic approach, predicts the hump flutter modes in all altitudes, i.e. the aeroelastic system is unstable before  $M = 0.95$ , but becomes stable between  $M=0.95$  and  $M=1.0$ .
- Similar to the classical flutter and the typical LCO cases, the on-set of LCO is very sensitive to the linear structural damping level. But, because of the sudden increase of the stable damping at  $M=0.98$ , the condition where LCO disappears is relatively insensitive to the structural damping.
- The above shows that indeed ZTAIC can provide correct trend for predicting the non-typical LCO case.



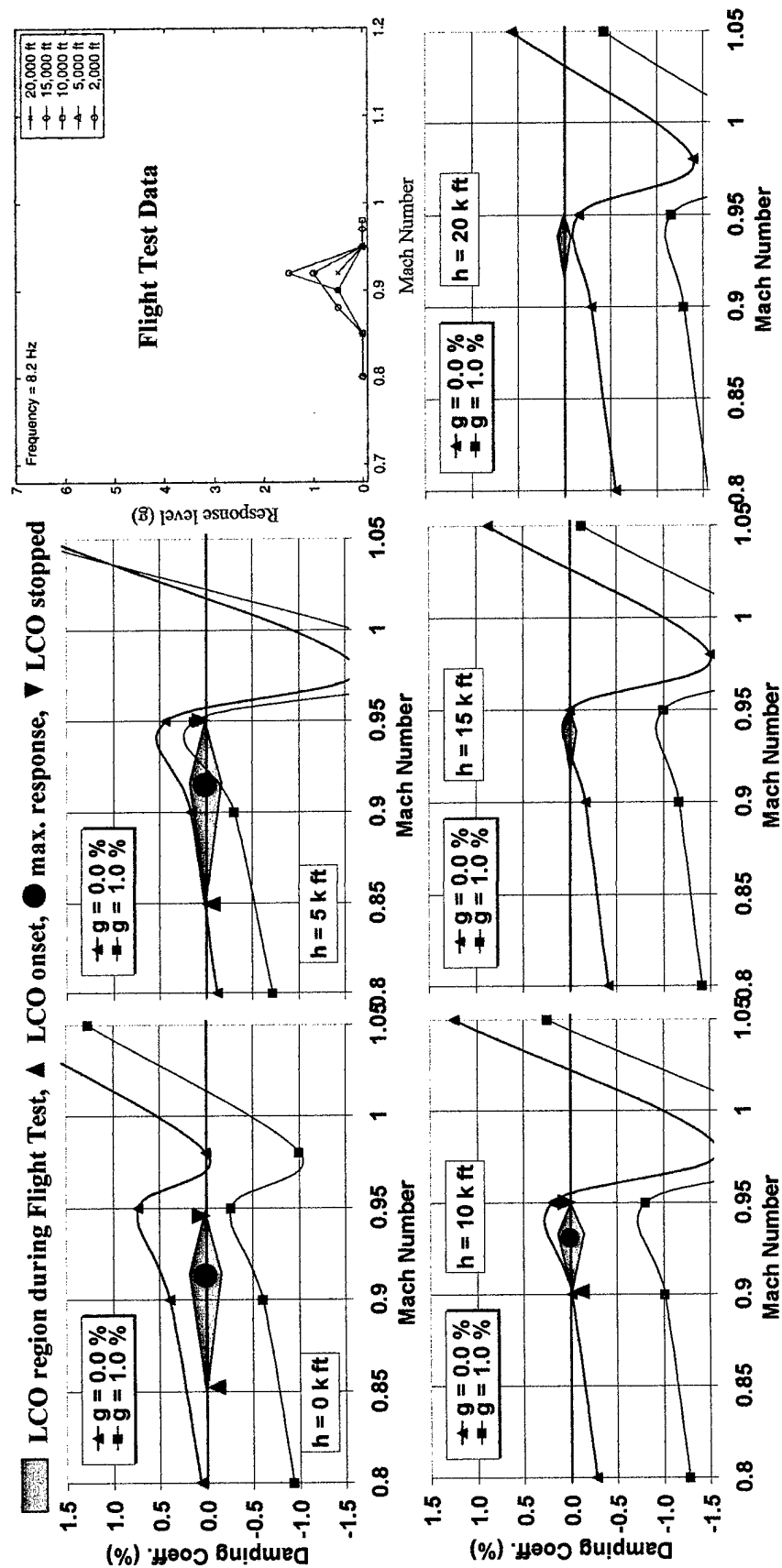


Figure 6.14 The Correlation between the Flutter Prediction using the Nonlinear Aerodynamic Approach (ZTAIC) and the Flight Test Data.



**Table 6.3 Critical speed and Frequency Using ZTAIC  
(Nonlinear Aerodynamic Approach).**

<i><b>Mach Number</b></i>	<i><b>Damping Coeff. g (%)</b></i>	<i><b>Flutter Speed (KCAS)</b></i>	<i><b>Flutter Frequency (Hz)</b></i>
<b>0.80</b>	0.0	616	8.19
	1.0	752	8.12
<b>0.90</b>	0.0	630	8.16
	1.0	595	8.18
<b>0.95</b>	0.0	475	8.18
	1.0	672	8.09
<b>0.98</b>	0.0	1127	8.00
	1.0	1195	8.00
<b>1.05</b>	0.0	365	8.21
	1.0	543	8.16



## SECTION 7

### CONCLUSIONS AND FUTURE WORK

We have successfully investigated the accuracy of the ZAERO aeroelastic software system to predict various types of flutter and limit cycle oscillations (LCO) and developed a massive store management (MSM) system as a platform for a rapid assessment of flutter/LCO (RAFEL) software system for massive aircraft/store configurations.

To test the capability of ZAERO, a number of aircraft/store configurations with various structure and aerodynamic modeling are used in subsonic, transonic and supersonic flight regimes using linear and nonlinear unsteady aerodynamic procedures of ZAERO. Three different F-16 with store configurations were used to identify various categories of aeroelastic instability responses including classical flutter, typical LCO and non-typical LCO. According to Reference 1, these categories are representative of the wide variety of aeroelastic responses encountered by fighter aircraft with external stores.

To accurately predict the flutter/LCO onset speed and frequency at various flight altitudes, the matched point option of the g-method, a robust aeroelastic solver of ZAERO, was used. The procedure is important to correlate directly the flutter/LCO prediction in terms of flight altitude and Mach number with the flight test data.

The influence of structural rigid body modes on aeroelastic instability was investigated. The result shows that the influence is small for classical flutter and typical LCO cases, but can be significant for the non-typical LCO case. The inclusion of the structural rigid body modes in the aeroelastic analysis adds very small fraction of computational time but increase the accuracy of the result. Therefore, it is recommended to include the rigid body modes in the flutter/LCO prediction.

The influence of linear and nonlinear unsteady aerodynamic methods to discern differences between classical flutter, typical LCO and non-typical LCO was investigated. By using ZONA6/ZONA7 of ZAERO for a linear aerodynamic approach, the classical flutter case has been successfully identified. By using ZTAIC of ZAERO for a nonlinear aerodynamic approach, the differences between typical and non-typical LCO cases as well as classical flutter case have been successfully predicted including the oscillation frequency and onset velocity of the instability response.

The influence of various aerodynamic modeling of stores and whole aircraft, including fuselage, wing and horizontal/vertical tails, was investigated. The simplest aerodynamic model, i.e. the wing with tip launcher only, is capable to identify the oscillation frequency of flutter/LCO, but fails to predict the onset velocity. The use of more refined aerodynamic model including the whole aircraft and stores successfully improves the prediction and provides a well correlation with the flight test data. Therefore, the store aerodynamic modeling is important for accurate prediction of the flutter/LCO.



To anticipate the increase of computational time due to the additional aerodynamic model of massive aircraft/store configurations, a rapid aeroelastic computational scheme was designed using ZAERO as the basic software system. The rapid computational scheme is based on the strategy to re-use the aerodynamic influence coefficient (AIC) data, which is the most time consuming part in aeroelastic computation, and based on an efficient massive data management system to rapidly store and recall the AIC data. A scheme to utilize various parts of ZAERO, including ZONA6, ZONA7, ZTAIC, the g-method package and spline modules, has been designed to substantially increase the computational efficiency of ZAERO for the massive aircraft/store flutter/LCO assessment.

The achievement of the Phase I objectives has paved the way and has provided considerable technical insight for future implementation of the RAFEL software system in aircraft/store flutter clearance. Consequently, it leads to a well-conceived plan for a Phase II development. The proposed tasks to be conducted in Phase II include:

*Implementation of the proposed RAFEL software system:*

- Develop an off-line software to generate invariant AIC matrices of aircraft and stores, set up corresponding finite element models and spline input, and save the data on a permanent data base.
- Develop an online software that is driven by the GUI (Graphical User Interface) pre-processor to generate the input files of ZAERO and NASTRAN by retrieving the permanent database and can launch NASTRAN and ZAERO jobs.
- Develop an online software that is driven by the GUI post-processor to rapidly search for the critical flutter/LCO configurations and display the results.

*Implementation of GUI system as the underlying software to*

- Graphically display all available stores whose data have been saved in the data base.
- Allow users to graphically select arbitrary store configurations.
- Retrieve store data from the permanent database, assemble NASTRAN and ZAERO input files and launch NASTRAN and ZAERO input files.
- Process the ZAERO results of all aircraft/store configurations to search for the critical flutter/LCO cases and graphically display the results.

*Implementation of parallel computing environment to accelerate computation*

- A parallel virtual machine (PVM) software system can establish a network system linking all computers/CPU's.
- The PVM system allows an optimum distribution of jobs on each CPU to accelerate the computation.
- No user interaction is required since the parallel computing environment is fully automated system.



## REFERENCES

1. Denegri Jr., C.M., "Limit Cycle Oscillation Flight Test Results of a Fighter with External Stores," *Journal of Aircraft*, Vol. 37, No. 5, Sep.-Oct. 2000.
2. Krist, S.L., Biedron, R.T. and Rumsey, C.L., "CFL3D User's Manual Version 5.0," NASA Langley Research Center, Hampton, VA, Sep. 1997.
3. Tang, L., Chen, P.C., Liu, D.D. and Bartels, R.E., "Simulation of Transonic Limit Cycle Oscillations Using a CFD Time-Marching Method," *AIAA 42<sup>nd</sup> AIAA/ASME/ASCE/AHS/ASC Conference & Exhibit*, Seattle, WA, Apr. 16<sup>th</sup> – 19<sup>th</sup>, 2001.
4. Chen, P.C. and Liu, D.D., "A Harmonic Gradient Method for Unsteady Supersonic Flow Calculations," *Journal of Aircraft*, Vol. 22, No. 15, May 1985, pp. 371-379.
5. Chen, P.C., Lee, H.W. and Liu, D.D., "Unsteady Subsonic Aerodynamics for Bodies and Wings with External Stores including Wake Effect", *Journal of Aircraft*, Vol. 30, No. 5, Sep.-Oct. 1993, pp. 618-628.
6. Chen, P.C., Sarhaddi, D. and Liu, D.D., "Transonic AIC Approach for Aeroelastic and MDO Applications," *Journal of Aircraft*, Vol. 37, No. 1, Jan.-Feb. 2000, pp. 85-94.
7. Chen, P.C. and Liu, D.D., "Unsteady Supersonic Computations of Arbitrary Wing-Body Configurations Including External Stores," *Journal of Aircraft*, Vol. 27, No. 2, Feb. 1990, pp. 108-116.
8. Liu, D.D., Yao, Z.X., Sarhaddi, D. and Chavez, F., "Piston Theory Revisited and Further Applications," *Journal of Aircraft*, Vol. 34, No. 3, May-Jun. 1997, pp. 304-312.
9. Harder, R.L. and Desmarais, R.N., "Interpolation Using Surface Splines," *AIAA Journal*, Vol. 9, No. 2, 1972, pp. 189-191.
10. Duchon, J., "Splines Minimizing Rotation-Invariant Semi-Norms in Sobolev Spaces," *Constructive Theory of Functions of Several Variables*, edited by W. Schempp and K. Zeller, Springer, Oberwolfach, Germany, 1976, pp. 85-100.
11. Chen, P.C., "A Damping Perturbation Method for Flutter Solution: The g-Method," *AIAA Journal*, Vol. 38, No. 8, Aug. 2000.
12. Peloubet, R.P., "YF-16 Active Control System/Structural Dynamics Interaction Instability, AIAA Paper, AIAA-75-823.
13. Bunton, R.W. and Denegri Jr., C.M., "Limit Cycle Oscillation Characteristics of Fighter Aircraft," *Journal of Aircraft*, Vol. 37, No.5, Sep.-Oct. 2000.



14. Dykman, J.R. and Rodden, W.P., "An Application of the P-Transform Method for Transient Maneuvering Analysis," *CEAS/AIAA/ICASE/NASA Langley International Forum on Aeroelasticity and Structural Dynamics*, 1999.
15. Chen, P.C., Sarhaddi, D. and Liu, D.D., "Limit Cycle Oscillation Studies of a Fighter with External Stores," AIAA Paper, 98-1727, Apr. 1998.
16. Nam, C., Chen, P.C. and Liu, D.D., "Adaptive Reconfigurable Control Based on a Reduced Order System Identification for Flutter and Aeroservoelastic Instability Suppression," Final Report of Contract No. N68335-00-C-0126, Nov. 12<sup>th</sup>, 2000.
17. "ZAERO: An Engineer's Toolkit for Aeroelastic Solutions, Theoretical Manual, Version 5.2," ZONA Technology, Inc., Scottsdale, AZ, [info@zonatech.com](mailto:info@zonatech.com), [www.zonatech.com](http://www.zonatech.com), June 2001.
18. Denegri Jr., C.M., Private Communications on F16 Structural Data, May-July 2001.
19. Penning, K., Private Communication on F16 Block 41 Structural Data, 1998.
20. Denegri Jr., C.M., Private Communications on F16 Wing CFD Data, Sept. 2001.



# **Appendix A.** **Structural Finite Element Data for Classical Flutter Case**

```

ID LMTAS BLOCK 40 F-16 FLUTTER FEM
SOL 103
TIME 20
$
CEWD
$
TITLE=F-16 1/2 AIRPLANE FINITE ELEMENT MODEL FOR FLUTTER ANALYSIS
SUBTI=ANTI-SYMMETRIC CENTERLINE BOUNDARY CONDITIONS //
LABEL=CONFIG 5 = MA41
DISP=ALL
ECHO=SORT
$ DMIG VERTICAL TAIL STIFFNESS MATRIX
KZGG=VTAIL
$ EIGENVALUE EXTRACTION
METHOD=1
$ SYMMETRIC B.C. / SPC=2 FOR ANTISYMMETRIC
SPC=2
$
$ SET 203022=GRIDS USED IN FLUTTER ANALYSIS.
$ ADD GRIDS 801 THROUGH 814 FOR DYNAMIC RESPONSE.
$
SET 203022= 2, 3, 4, 5, 6,
            9, 11, 13, 15, 17,
            19, 20, 21, 26, 29,
            33, 39, 44, 47, 51,
            52, 53, 56, 60, 61,
            62, 64, 65, 68, 72,
            73, 74, 75, 77, 78,
            81, 85, 86, 87, 89,
            90, 91, 92, 93, 95,
            102, 103, 104, 105, 106,
            107, 108, 109, 110, 111,
            112, 113, 122, 123, 124,
            128, 129, 130, 131, 132,
            133, 3004, 3006, 3009 $ AIM-9/16S200 OR 16S200 ON TIP
$
OUTPUT(PLOT)
CSCALE=1.8
PAPER SIZE=26. BY 20.
$
$ SET 10=ELEMENTS USED IN MODE PLOTS
$
$ FUSELAGE CENTERLINE
SET 10= 1 THRU 26,
$ WING BOX
1001 THRU 1005,
1007,1010 THRU 1013,
1020,1023 THRU 1025,
1031,1034,1036,1043,1045,
1046,1048 THRU 1054,
1056 THRU 1062,
1071 THRU 1074,
1078,1079,1080,
1086 THRU 1090,
1099,1100,1101,
1075,1076,1077,
1081 THRU 1085,
1091 THRU 1097,
1102 THRU 1111,
1116 THRU 1125,
1126,1127,1128,
$ LEADING EDGE FLAP / 1258 ACTUATOR
1131 THRU 1134,
1136,1137,1138,
1140,1141,1142,
1144,1145,1146,
1148 THRU 1151,
1152 THRU 1171,
$ FLAPERON
1181 THRU 1185,
1187 THRU 1189,
1190 THRU 1194,
1196 THRU 1203,
1205 THRU 1207,
1209 THRU 1220,
1231 THRU 1238,
1251 THRU 1258,
1261 THRU 1268,
$ HORIZONTAL TAIL
2001 THRU 2058,
$ VERTICAL TAIL
2401 THRU 2460,
$ 16S200 // STATION 1,9
3003 THRU 3009,
$ AIM-9L // STATION 1,9
3014,3015
$
$ MAXIMUM DEFORMATION 35.
AXES MX,MY,Z
VIEW 60.0,30.,0.
FIND SCALE ORIGIN 10 SET 10
PLOT MODAL DEFO 0 SET 10 ORIGIN 10
$
$ BEGIN BULK
ASET 3500 123456
ASET 3501 123456
ASET1 1 163 153 154 155 156 71 286
ASET1 1 267
ASET1 1 284 281
ASET1 1 367 408 368 359 384
ASET1 1 373 364 381 383

```

ASET1	1	386	391	371	362	387	392	393
ASET1	1	389	369	360	385	390	370	361
ASET1	1	410						
ASET1	3	6	17	5	15	4	13	3
ASET1	3	11	2	9				
ASET1	3	19	72	20	60	73	21	61
ASET1	3	39	47	56	68	81		
ASET1	3	74	51	62	75	26	52	64
ASET1	3	77	29	44	53	65	78	33
ASET1	3	85	86	87	88			
ASET1	3	90	103	109	89	102	108	
ASET1	3	95	107	113	93	106	112	124
ASET1	3	130	133	92	105	111	123	129
ASET1	3	132	91	104	110	122	128	131
ASET1	3	233						
ASET1	3	251	THRU	266				
ASET1	3	3017	3019	3022				
ASET1	5	153	154	155	156	71	286	284
ASET1	5	410						
ASET1	5	459						
ASET1	6	437	281	410				
ASET1	6	458						
ASET1	3456	3018						
CBAR	27	27	284	410	1.	1.	0.	
CBAR	2401	2401	407	367	0.	1.	1.	
CBAR	2402	2402	367	368	0.	1.	1.	
CBAR	2403	2403	368	369	0.	1.	1.	
CBAR	2404	2404	369	370	0.	1.	1.	
CBAR	2405	2405	370	371	0.	1.	1.	
CBAR	2406	2406	371	372	0.	1.	1.	
CBAR	2407	2407	372	373	0.	1.	1.	
CBAR	2408	2408	357	358	0.	1.	1.	
CBAR	2409	2409	358	359	0.	1.	1.	
CBAR	2410	2410	359	360	0.	1.	1.	
CBAR	2411	2411	360	361	0.	1.	1.	
CBAR	2412	2412	361	362	0.	1.	1.	
CBAR	2413	2413	362	363	0.	1.	1.	
CBAR	2414	2414	363	364	0.	1.	1.	
CBAR	2415	2415	409	375	0.	1.	1.	
CBAR	2416	2416	375	376	0.	1.	1.	
CBAR	2417	2417	376	377	0.	1.	1.	
CBAR	2418	2418	377	378	0.	1.	1.	
CBAR	2419	2419	378	379	0.	1.	1.	
CBAR	2420	2420	379	380	0.	1.	1.	
CBAR	2421	2421	380	381	0.	1.	1.	
CBAR	2422	2422	382	383	0.	1.	1.	
CBAR	2423	2423	384	385	0.	1.	1.	
CBAR	2424	2424	385	386	0.	1.	1.	
CBAR	2425	2425	386	387	0.	1.	1.	
CBAR	2426	2426	387	388	0.	1.	1.	
CBAR	2427	2427	388	389	0.	1.	1.	
CBAR	2428	2428	390	391	0.	1.	1.	
CBAR	2429	2429	391	392	0.	1.	1.	
CBAR	2430	2430	392	393	0.	1.	1.	
CBAR	2431	2431	407	357	0.	1.	1.	
CBAR	2432	2432	357	409	0.	1.	1.	
CBAR	2433	2433	367	358	0.	1.	1.	
CBAR	2434	2434	358	375	0.	1.	1.	
CBAR	2435	2435	375	384	0.	1.	1.	
CBAR	2436	2436	375	406	0.	1.	1.	
CBAR	2437	2437	406	408	0.	1.	1.	
CBAR	2438	2438	368	359	0.	1.	1.	
CBAR	2439	2439	359	376	0.	1.	1.	
CBAR	2440	2440	376	384	0.	1.	1.	
CBAR	2441	2441	369	360	0.	1.	1.	
CBAR	2442	2442	360	377	0.	1.	1.	
CBAR	2443	2443	377	385	0.	1.	1.	
CBAR	2444	2444	370	361	0.	1.	1.	
CBAR	2445	2445	361	378	0.	1.	1.	
CBAR	2446	2446	378	386	0.	1.	1.	
CBAR	2447	2447	371	362	0.	1.	1.	
CBAR	2448	2448	362	379	0.	1.	1.	
CBAR	2449	2449	372	363	0.	1.	1.	
CBAR	2450	2450	363	380	0.	1.	1.	
CBAR	2451	2451	380	382	0.	1.	1.	
CBAR	2452	2452	380	388	0.	1.	1.	
CBAR	2453	2453	373	364	0.	1.	1.	
CBAR	2454	2454	364	381	0.	1.	1.	
CBAR	2455	2455	381	383	0.	1.	1.	
CBAR	2456	2456	384	369	0.	1.	1.	
CBAR	2457	2457	385	390	0.	1.	1.	
CBAR	2458	2458	386	391	0.	1.	1.	
CBAR	2459	2459	387	392	0.	1.	1.	
CBAR	2460	2460	388	393	0.	1.	1.	
CBAR	3502	3502	3500	52	1.	1.	0.	
CBAR	3503	3502	3501	52	1.	1.	0.	
CBEAM	1	1	163	164	1.	0.	0.	
CBEAM	2	2	164	153	1.	0.	0.	
CBEAM	3	3	267	154	1.	0.	0.	
CBEAM	4	4	154	155	1.	0.	0.	
CBEAM	5	5	155	156	1.	0.	0.	
CBEAM	6	6	268	36	1.	0.	0.	
CBEAM	7	7	36	42	1.	0.	0.	
CBEAM	8	8	42	50	1.	0.	0.	
CBEAM	9	9	50	437	1.	0.	0.	
CBEAM	10	10	437	59	1.	0.	0.	
CBEAM	11	11	59	431	1.	0.	0.	
CBEAM	12	12	431	71	1.	0.	0.	
CBEAM	13	13	71	84	1.	0.	0.	
CBEAM	14	14	84	298	1.	0.	0.	
CBEAM	15	15	298	286	1.	0.	0.	
CBEAM	16	16	286	117	1.	0.	0.	



CBEAM	17	17	117	285	1.	1.	0.
CBEAM	18	18	285	283	1.	1.	0.
CBEAM	19	19	283	284	1.	1.	0.
CBEAM	20	20	284	282	1.	1.	0.
CBEAM	21	21	282	281	1.	1.	0.
CBEAM	22	22	281	405	1.	0.	0.
CBEAM	31	31	36	35	1.	1.	0.
CBEAM	32	32	42	41	1.	1.	0.
CBEAM	33	33	50	49	1.	1.	0.
CBEAM	34	34	59	58	1.	1.	0.
CBEAM	35	35	71	70	1.	1.	0.
CBEAM	36	36	84	83	1.	1.	0.
CBEAM	37	37	117	116	1.	1.	0.
CBEAM	38	38	34	31	1.	1.	0.
CBEAM	39	39	40	37	1.	1.	0.
CBEAM	40	40	48	45	1.	1.	0.
CBEAM	41	41	57	54	1.	1.	0.
CBEAM	42	42	69	66	1.	1.	0.
CBEAM	43	43	82	94	1.	1.	0.
CBEAM	44	44	94	118	1.	1.	0.
CBEAM	45	45	118	121	1.	1.	0.
CBEAM	46	46	115	79	1.	1.	0.
CBEAM	47	47	79	120	1.	1.	0.
CBEAM	48	48	120	114	1.	1.	0.
CBEAM	49	49	31	37	1.	1.	0.
+49BM	46						
CBEAM	50	50	37	45	1.	1.	0.
CBEAM	51	51	45	54	1.	1.	0.
CBEAM	52	52	54	66	1.	1.	0.
CBEAM	53	53	66	121	1.	1.	0.
+53BM	54						
CBEAM	54	54	121	114	1.	1.	0.
+54BM	456						
CBEAM	55	55	118	119	1.	1.	0.
CBEAM	56	56	119	120	1.	1.	0.
CBEAM	57	57	94	79	1.	1.	0.
CBEAM	141	141	467	274	1.	1.	0.
CBEAM	142	142	274	465	1.	1.	0.
CBEAM	143	143	465	275	1.	1.	0.
CBEAM	144	144	275	278	1.	1.	0.
CBEAM	145	145	278	280	1.	1.	0.
CBEAM	146	146	280	292	1.	1.	0.
CBEAM	147	147	292	114	1.	1.	0.
+147BM	456						
CBEAM	148	148	466	273	1.	1.	0.
CBEAM	149	149	273	464	1.	1.	0.
CBEAM	150	150	464	276	1.	1.	0.
CBEAM	151	151	276	279	1.	1.	0.
CBEAM	152	152	279	290	1.	1.	0.
CBEAM	153	153	290	293	1.	1.	0.
CBEAM	154	154	293	79	1.	1.	0.
+154BM	456						
CBEAM	160	160	295	300	1.	1.	0.
CBEAM	161	161	117	300	1.	1.	0.
CBEAM	162	162	300	79	1.	1.	0.
CBEAM	163	163	79	114	1.	1.	0.
CBEAM	164	164	283	295	1.	1.	0.
CBEAM	165	165	295	294	1.	1.	0.
CBEAM	166	166	293	292	1.	1.	0.
CBEAM	167	167	282	291	1.	1.	0.
CBEAM	168	168	290	280	1.	1.	0.
CBEAM	169	169	279	271	1.	1.	0.
+169BM	456						
CBEAM	170	170	271	278	1.	1.	0.
+170BM	56						
CBEAM	171	171	281	277	1.	1.	0.
CBEAM	172	172	276	275	1.	1.	0.
CBEAM	173	173	464	465	1.	1.	0.
CBEAM	174	174	466	467	1.	1.	0.
CBEAM	175	175	271	272	1.	1.	0.
+175BM	46						
CBEAM	176	176	273	241	1.	1.	0.
CBEAM	177	177	241	299	1.	1.	0.
CBEAM	178	178	299	272	1.	1.	0.
CBEAM	179	179	272	274	1.	1.	0.
CBEAM	180	180	274	233	1.	1.	0.
CBEAM	181	181	195	296	1.	1.	0.
+181BM	56						
CBEAM	182	182	296	196	1.	1.	0.
+182BM	56						
CBEAM	1001	1001	33	39	1.	0.	0.
CBEAM	1002	1002	39	47	1.	0.	0.
CBEAM	1003	1003	47	56	1.	0.	0.
CBEAM	1004	1004	56	68	1.	0.	0.
CBEAM	1005	1005	68	81	1.	0.	0.
CBEAM	1007	1007	32	38	1.	0.	0.
CBEAM	1009	1009	30	38	1.	0.	0.
CBEAM	1010	1010	38	46	1.	0.	0.
CBEAM	1011	1011	46	55	1.	0.	0.
CBEAM	1012	1012	55	67	1.	0.	0.
CBEAM	1013	1013	67	80	1.	0.	0.
CBEAM	1014	1014	181	182	1.	0.	0.
CBEAM	1015	1015	182	183	1.	0.	0.
CBEAM	1016	1016	183	184	1.	0.	0.
CBEAM	1017	1017	184	185	1.	0.	0.
CBEAM	1018	1018	185	186	1.	0.	0.
CBEAM	1020	1020	29	44	1.	0.	0.
CBEAM	1022	1022	27	44	1.	0.	0.
CBEAM	1023	1023	44	53	1.	0.	0.
CBEAM	1024	1024	53	65	1.	0.	0.
CBEAM	1025	1025	65	78	1.	0.	0.
CBEAM	1026	1026	187	188	1.	0.	0.
+1026BM	56						
CBEAM	1027	1027	188	189	1.	0.	0.
CBEAM	1028	1028	189	190	1.	0.	0.
CBEAM	1029	1029	190	191	1.	0.	0.
CBEAM	1031	1031	26	52	1.	0.	0.
CBEAM	1033	1033	25	52	1.	0.	0.
CBEAM	1034	1034	52	64	1.	0.	0.
CBEAM	1035	1035	64	245	1.	0.	0.
CBEAM	1036	1036	64	77	1.	0.	0.
CBEAM	1037	1037	245	77	1.	0.	0.
CBEAM	1038	1038	192	193	1.	0.	0.
CBEAM	1039	1039	193	63	1.	0.	0.

+49BM

+53BM

+54BM

+147BM

+154BM

+169BM

+170BM

+175BM

+181BM

+182BM

+1026BM

CBEAM	1040	1040	63	245	1.	0.	0.
CBEAM	1041	1041	245	76	1.	0.	0.
CBEAM	1043	1043	24	51	1.	0.	0.
CBEAM	1045	1045	23	51	1.	0.	0.
CBEAM	1046	1046	51	62	1.	0.	0.
CBEAM	1047	1047	22	62	1.	0.	0.
CBEAM	1048	1048	62	244	1.	0.	0.
CBEAM	1049	1049	244	75	1.	0.	0.
CBEAM	1050	1050	75	88	1.	0.	0.
CBEAM	1051	1051	21	61	1.	0.	0.
CBEAM	1052	1052	61	243	1.	0.	0.
CBEAM	1053	1053	243	74	1.	0.	0.
+1053BM	56						
CBEAM	1054	1054	74	87	1.	0.	0.
CBEAM	1056	1056	20	60	1.	0.	0.
CBEAM	1057	1057	60	242	1.	0.	0.
CBEAM	1058	1058	242	73	1.	0.	0.
+1058BM	56						
CBEAM	1059	1059	73	86	1.	0.	0.
CBEAM	1060	1060	19	143	1.	0.	0.
CBEAM	1061	1061	143	72	1.	0.	0.
CBEAM	1062	1062	72	85	1.	0.	0.
CBEAM	1071	1071	33	32	0.	1.	0.
CBEAM	1072	1072	32	30	0.	1.	0.
CBEAM	1073	1073	30	181	0.	1.	0.
CBEAM	1074	1074	181	29	0.	1.	0.
CBEAM	1075	1075	39	38	0.	1.	0.
CBEAM	1076	1076	38	182	0.	1.	0.
CBEAM	1077	1077	182	29	0.	1.	0.
CBEAM	1078	1078	29	27	0.	1.	0.
CBEAM	1079	1079	27	187	0.	1.	0.
CBEAM	1080	1080	187	26	0.	1.	0.
CBEAM	1081	1081	47	46	0.	1.	0.
CBEAM	1082	1082	46	183	0.	1.	0.
CBEAM	1083	1083	183	44	0.	1.	0.
CBEAM	1084	1084	44	188	0.	1.	0.
CBEAM	1085	1085	188	26	0.	1.	0.
CBEAM	1086	1086	26	25	0.	1.	0.
CBEAM	1087	1087	25	192	0.	1.	0.
CBEAM	1088	1088	192	24	0.	1.	0.
CBEAM	1089	1089	24	23	0.	1.	0.
CBEAM	1090	1090	23	22	0.	1.	0.
CBEAM	1091	1091	56	55	0.	1.	0.
CBEAM	1092	1092	55	184	0.	1.	0.
CBEAM	1093	1093	184	53	0.	1.	0.
CBEAM	1094	1094	53	189	0.	1.	0.
CBEAM	1095	1095	189	52	0.	1.	0.
CBEAM	1096	1096	52	193	0.	1.	0.
CBEAM	1097	1097	193	51	0.	1.	0.
CBEAM	1098	1098	51	22	0.	1.	0.
+1098BM	56						
CBEAM	1099	1099	22	21	0.	1.	0.
CBEAM	1100	1100	21	20	0.	1.	0.
CBEAM	1101	1101	20	19	0.	1.	0.
CBEAM	1102	1102	68	67	0.	1.	0.
CBEAM	1103	1103	67	185	0.	1.	0.
CBEAM	1104	1104	185	65	0.	1.	0.
CBEAM	1105	1105	65	190	0.	1.	0.
CBEAM	1106	1106	190	64	0.	1.	0.
CBEAM	1107	1107	64	63	0.	1.	0.
CBEAM	1108	1108	63	62	0.	1.	0.
CBEAM	1109	1109	62	61	0.	1.	0.
CBEAM	1110	1110	61	60	0.	1.	0.
CBEAM	1111	1111	60	19	0.	1.	0.
CBEAM	1112	1112	245	244	0.	1.	0.
CBEAM	1113	1113	244	243	0.	1.	0.
CBEAM	1114	1114	243	242	0.	1.	0.
CBEAM	1115	1115	242	143	0.	1.	0.
CBEAM	1116	1116	81	80	0.	1.	0.
CBEAM	1117	1117	80	186	0.	1.	0.
CBEAM	1118	1118	186	78	0.	1.	0.
CBEAM	1119	1119	78	191	0.	1.	0.
CBEAM	1120	1120	191	77	0.	1.	0.
CBEAM	1121	1121	77	76	0.	1.	0.
CBEAM	1122	1122	76	75	0.	1.	0.
CBEAM	1123	1123	75	74	0.	1.	0.
CBEAM	1124	1124	74	73	0.	1.	0.
CBEAM	1125	1125	73	72	0.	1.	0.
CBEAM	1126	1126	88	87	0.	1.	0.
CBEAM	1127	1127	87	86	0.	1.	0.
CBEAM	1128	1128	86	85	0.	1.	0.
CBEAM	1131	1131	7	18	1.	0.	0.
CBEAM	1132	1132	6	16	1.	0.	0.



CBEAM	1159	1159	173	3	1.	0.	0.	
CBEAM	1160	1160	2	173	1.	0.	0.	
CBEAM	1161	1161	1	2	1.	0.	0.	
CBEAM	1162	1162	16	18	1.	0.	0.	
CBEAM	1163	1163	180	16	1.	0.	0.	
CBEAM	1164	1164	14	180	1.	0.	0.	
CBEAM	1165	1165	179	14	1.	0.	0.	
CBEAM	1166	1166	12	179	1.	0.	0.	
CBEAM	1167	1167	178	12	1.	0.	0.	
CBEAM	1168	1168	10	178	1.	0.	0.	
CBEAM	1169	1169	177	10	1.	0.	0.	
CBEAM	1170	1170	194	177	1.	0.	0.	
CBEAM	1171	1171	8	194	1.	0.	0.	
CBEAM	1181	1181	81	95	1.	0.	0.	+BM1181
+BM1181	456							
CBEAM	1182	1182	95	142	1.	0.	0.	
CBEAM	1183	1183	142	101	1.	0.	0.	
CBEAM	1184	1184	101	107	1.	0.	0.	
CBEAM	1185	1185	107	113	1.	0.	0.	
CBEAM	1186	1186	93	141	1.	0.	0.	
CBEAM	1187	1187	141	100	1.	0.	0.	
CBEAM	1188	1188	100	106	1.	0.	0.	
CBEAM	1189	1189	106	112	1.	0.	0.	
CBEAM	1190	1190	186	124	1.	0.	0.	+BM1190
+BM1190	456							
CBEAM	1191	1191	124	140	1.	0.	0.	
CBEAM	1192	1192	140	127	1.	0.	0.	
CBEAM	1193	1193	127	130	1.	0.	0.	
CBEAM	1194	1194	130	133	1.	0.	0.	
CBEAM	1195	1195	92	139	1.	0.	0.	
CBEAM	1196	1196	139	99	1.	0.	0.	
CBEAM	1197	1197	99	105	1.	0.	0.	
CBEAM	1198	1198	105	111	1.	0.	0.	
CBEAM	1199	1199	191	123	1.	0.	0.	+BM1199
+BM1199	456							
CBEAM	1200	1200	123	138	1.	0.	0.	
CBEAM	1201	1201	138	126	1.	0.	0.	
CBEAM	1202	1202	126	129	1.	0.	0.	
CBEAM	1203	1203	129	132	1.	0.	0.	
CBEAM	1204	1204	91	137	1.	0.	0.	
CBEAM	1205	1205	137	98	1.	0.	0.	
CBEAM	1206	1206	98	104	1.	0.	0.	
CBEAM	1207	1207	104	110	1.	0.	0.	
CBEAM	1208	1208	122	136	1.	0.	0.	
CBEAM	1209	1209	136	125	1.	0.	0.	
CBEAM	1210	1210	125	128	1.	0.	0.	
CBEAM	1211	1211	128	131	1.	0.	0.	
CBEAM	1212	1212	76	90	1.	0.	0.	+BM1212
+BM1212	456							
CBEAM	1213	1213	90	135	1.	0.	0.	
CBEAM	1214	1214	135	97	1.	0.	0.	
CBEAM	1215	1215	97	103	1.	0.	0.	
CBEAM	1216	1216	103	109	1.	0.	0.	
CBEAM	1217	1217	89	134	1.	0.	0.	
CBEAM	1218	1218	134	96	1.	0.	0.	
CBEAM	1219	1219	96	102	1.	0.	0.	
CBEAM	1220	1220	102	108	1.	0.	0.	
CBEAM	1231	1231	141	142	1.	0.	0.	
CBEAM	1232	1232	140	141	1.	0.	0.	
CBEAM	1233	1233	139	140	1.	0.	0.	
CBEAM	1234	1234	138	139	1.	0.	0.	
CBEAM	1235	1235	137	138	1.	0.	0.	
CBEAM	1236	1236	136	137	1.	0.	0.	
CBEAM	1237	1237	135	136	1.	0.	0.	
CBEAM	1238	1238	134	135	1.	0.	0.	
CBEAM	1241	1241	100	101	1.	0.	0.	
CBEAM	1242	1242	127	100	1.	0.	0.	
CBEAM	1243	1243	99	127	1.	0.	0.	
CBEAM	1244	1244	126	99	1.	0.	0.	
CBEAM	1245	1245	98	126	1.	0.	0.	
CBEAM	1246	1246	125	98	1.	0.	0.	
CBEAM	1247	1247	97	125	1.	0.	0.	
CBEAM	1248	1248	96	97	1.	0.	0.	
CBEAM	1251	1251	106	107	1.	0.	0.	
CBEAM	1252	1252	130	106	1.	0.	0.	
CBEAM	1253	1253	105	130	1.	0.	0.	
CBEAM	1254	1254	129	105	1.	0.	0.	
CBEAM	1255	1255	104	129	1.	0.	0.	
CBEAM	1256	1256	128	104	1.	0.	0.	
CBEAM	1257	1257	103	128	1.	0.	0.	
CBEAM	1258	1258	102	103	1.	0.	0.	
CBEAM	1261	1261	112	113	1.	0.	0.	
CBEAM	1262	1262	133	112	1.	0.	0.	
CBEAM	1263	1263	111	133	1.	0.	0.	
CBEAM	1264	1264	132	111	1.	0.	0.	
CBEAM	1265	1265	110	132	1.	0.	0.	
CBEAM	1266	1266	131	110	1.	0.	0.	
CBEAM	1267	1267	109	131	1.	0.	0.	
CBEAM	1268	1268	108	109	1.	0.	0.	
CBEAM	2001	2001	251	506	1.	1.	0.	+BM2001
+BM2001	456							
CBEAM	2002	2002	506	233	1.	1.	0.	
CBEAM	2003	2003	233	517	1.	1.	0.	
CBEAM	2004	2004	517	262	1.	1.	0.	
+BM2004	456							
CBEAM	2005	2005	252	507	1.	1.	0.	+BM2005
+BM2005	456							
CBEAM	2006	2006	507	257	1.	1.	0.	
CBEAM	2007	2007	257	518	1.	1.	0.	
CBEAM	2008	2008	518	262	1.	1.	0.	+BM2008
+BM2008	456							
CBEAM	2009	2009	253	508	1.	1.	0.	+BM2009
+BM2009	456							
CBEAM	2010	2010	508	258	1.	1.	0.	
CBEAM	2011	2011	258	519	1.	1.	0.	
CBEAM	2012	2012	519	263	1.	1.	0.	+BM2012
+BM2012	456							
CBEAM	2013	2013	254	509	1.	1.	0.	+BM2013
+BM2013	456							
CBEAM	2014	2014	509	259	1.	1.	0.	
CBEAM	2015	2015	259	520	1.	1.	0.	
CBEAM	2016	2016	520	264	1.	1.	0.	+BM2016
+BM2016	456							
CBEAM	2017	2017	255	510	1.	1.	0.	+BM2017

+BM2017	456							
CBEAM	2018	2018	510	260	1.	1.	0.	
CBEAM	2019	2019	260	521	1.	1.	0.	
CBEAM	2020	2020	521	265	1.	1.	0.	+BM2020
+BM2020	456							
CBEAM	2021	2021	256	511	1.	1.	0.	+BM2021
+BM2021	456							
CBEAM	2022	2022	511	261	1.	1.	0.	+BM2022
+BM2022	456							
CBEAM	2023	2023	261	522	1.	1.	0.	+BM2023
+BM2023	456							
CBEAM	2024	2024	522	266	1.	1.	0.	+BM2024
+BM2024	456							
CBEAM	2031	2031	251	501	1.	1.	0.	+BM2031
+BM2031	456							
CBEAM	2032	2032	501	252	1.	1.	0.	
CBEAM	2033	2033	252	502	1.	1.	0.	
CBEAM	2034	2034	502	253	1.	1.	0.	
CBEAM	2035	2035	253	503	1.	1.	0.	
CBEAM	2036	2036	503	254	1.	1.	0.	
CBEAM	2037	2037	254	504	1.	1.	0.	
CBEAM	2038	2038	504	255	1.	1.	0.	
CBEAM	2039	2039	255	505	1.	1.	0.	
CBEAM	2040	2040	505	256	1.	1.	0.	+BM2040
+BM2040	456							
CBEAM	2041	2041	233	512	1.	1.	0.	
CBEAM	2042	2042	512	257	1.	1.	0.	
CBEAM	2043	2043	257	513	1.	1.	0.	
CBEAM	2044	2044	513	258	1.	1.	0.	
CBEAM	2045	2045	258	514	1.	1.	0.	
CBEAM	2046	2046	514	259	1.	1.	0.	
CBEAM	2047	2047	259	515	1.	1.	0.	
CBEAM	2048	2048	515	260	1.	1.	0.	
CBEAM	2049	2049	260	516	1.	1.	0.	+BM2050
CBEAM	2050	2050	516	261	1.	1.	0.	
+BM2050	456							
CBEAM	2051	2051	262	523	1.	1.	0.	+BM2051
+BM2051	456							
CBEAM	2052	2052	523	263	1.	1.	0.	
CBEAM	2053	2053	263	524	1.	1.	0.	
CBEAM	2054	2054	524	264	1.	1.	0.	
CBEAM	2055	2055	264	525	1.	1.	0.	
CBEAM	2056	2056	525	265	1.	1.	0.	
CBEAM	2057	2057	265	526	1.	1.	0.	
CBEAM	2058	2058	526	266	1.	1.	0.	+BM2058
+BM2058	456							
CBEAM	3026	3026	19	3020	0.	1.	0.	
CBEAM	3027	3027	3016	3021	0.	1.	0.	
CBEAM	3028	3028	3017	3018	1.	0.	0.	
CBEAM	3029	3029	3018	3019	1.	0.	0.	
CBEAM	3030	3030	3019	3020	1.	0.	0.	
CBEAM	3031	3031	3020	3021	1.	0.	0.	
CBEAM	3032	3032	3021	3022	1.	0.	0.	+3032
+3032	5							
CBEAM	5002	5002	153	267	1.	0.	0.	
CBEAM	5051	5051	156	458	1.	0.	0.	
CBEAM	5052	5052	458	459	1.	0.	0.	
CBEAM	5053	5053	459	268	1.	0.	0.	
CELAS2	61	36.686	34	5	35	5		
CELAS2	62	71.086	40	5	41	5		
CELAS2	63	94.186	48	5	49	5		
CELAS2	64	132.486	57	5	58	5		
CELAS2	65	110.086	69	5	70	5		
CELAS2	66	51.786	82	5	83	5		
CELAS2	67	5.086	115	5	116	5		
CELAS2	191	11.2586	277	5	276	5		
CELAS2	192	22.086	291	5	290	5		
CELAS2	193	9.6886	294	5	293	5		
CELAS2	194	156610.	298	3	195	3		
CELAS2	195	67829.	284	3	196	3		
CELAS2	1172	5650000.17	4	30	4			
CELAS2	1173	5590000.15	4	27	4			
CELAS2	1174	1600000.13	4	25	4			
CELAS2	1175	2030000.11	4	23	4			
CELAS2	1221	3307000.142	4	141	4			
CELAS2	1222	268300.141	4	140	4			
CELAS2	1223	137300.140	4	139	4			
CELAS2	1224	105200.139	4	138	4			
CELAS2	1225	85600.138	4	137	4			
CELAS2	1226	69900.137	4	136	4			
CELAS2	1227	57700.136	4	135	4			
CELAS2	1228	40000.135	4	134	4			
CELAS2	1229	6229750.142	4	119	4			
CONN1	301	19	0					+301
+301	9.565							
CONN1	302	72	0					+302
+302	6.770							
CONN1	303	20	0					+303
+303	7.972							
CONN1	304	60	0					+304
+304	10.110							
CONN1	305	73	0					+305
+305	7.755							
CONN1	306	21	0					+306
+306	13.712							
CONN1	307	61	0					+307
+307	20.285							
CONN1	308	74	0					+308
+308	9.982							
CONN1	309	51	0					+309
+309	32.156							
CONN1	310	62	0					+310
+310	25.281							
CONN1	311	75	0					+311
+311	14.295							
CONN1	312	26	0					+312
+312	42.942							
CONN1	313	52	0					+313
+313	57.288							
CONN1	314	64	0					+314
+314	46.648							
CONN1	315	77	0					+315
+315	20.983							
CONN1	316	29	0					+316



+316	60.677		
CONM1	317	44	0
+317	80.964		
CONM1	318	53	0
+318	74.861		
CONM1	319	65	0
+319	56.266		
CONM1	320	78	0
+320	28.341		
CONM1	321	33	0
+321	37.854		
CONM1	322	39	0
+322	99.621		
CONM1	323	47	0
+323	105.244		
CONM1	324	56	0
+324	95.811		
CONM1	325	68	0
+325	89.620		
CONM1	326	81	0
+326	33.148		
CONM1	341	85	0
+341	.6		
CONM1	342	86	0
+342	1.6		
CONM1	343	87	0
+343	1.8		
CONM1	344	88	0
+344	1.		
CONM1	345	6	0
+345	12.03		
CONM1	346	17	0
+346	57.78		
CONM1	347	5	0
+347	10.08		
CONM1	348	15	0
+348	42.72		
CONM1	349	4	0
+349	6.92		
CONM1	350	13	0
+350	27.67		
CONM1	351	3	0
+351	5.17		
CONM1	352	11	0
+352	27.65		
CONM1	353	2	0
+353	4.08		
CONM1	354	9	0
+354	3.71		
CONM1	355	95	0
+355	9.133		
CONM1	356	107	0
+356	6.765		
CONM1	357	113	0
+357	.022		
CONM1	358	93	0
+358	10.32		
CONM1	359	106	0
+359	10.12		
CONM1	360	112	0
+360	.149		
CONM1	361	124	0
+361	5.816		
CONM1	362	130	0
+362	7.986		
CONM1	363	133	0
+363	.998		
CONM1	364	92	0
+364	4.56		
CONM1	365	105	0
+365	6.797		
CONM1	366	111	0
+366	.952		
CONM1	367	123	0
+367	3.296		
CONM1	368	129	0
+368	4.727		
CONM1	369	132	0
+369	.647		
CONM1	370	91	0
+370	2.069		
CONM1	371	104	0
+371	3.014		
CONM1	372	110	0
+372	.477		
CONM1	373	122	0
+373	1.784		
CONM1	374	128	0
+374	2.632		
CONM1	375	131	0
+375	.435		
CONM1	376	90	0
+376	1.644		
CONM1	377	103	0
+377	2.354		
CONM1	378	109	0
+378	.272		
CONM1	379	89	0
+379	.651		
CONM1	380	102	0
+380	1.075		
CONM1	381	108	0
+381	.284		
CONM1	391	163	0
+391	314.21		
CONM1	392	153	0
+392	463.77		
CONM1	393	154	0
+393	870.68		
CONM1	394	155	0
+394	1299.38		
CONM1	395	156	0
+395	1545.78		
CONM1	396	42	0

+317
+318
+319
+320
+321
+322
+323
+324
+325
+326
+341
+342
+343
+344
+345
+346
+347
+348
+349
+350
+351
+352
+353
+354
+355
+356
+357
+358
+359
+360
+361
+362
+363
+364
+365
+366
+367
+368
+369
+370
+371
+372
+373
+374
+375
+376
+377
+378
+379
+380
+381
+391
+392
+393
+394
+395
+396

+396	1799.25		
CONM1	397	71	0
+397	1412.77		
CONM1	398	286	0
+398	893.77		
CONM1	399	284	0
+399	335.19		
CONM1	400	281	0
+400	708.33		
CONM1	401	163	0
+401	402	153	0
CONM1	403	154	0
+403	404	155	0
CONM1	405	156	0
+405	406	42	0
CONM1	407	71	0
+407	408	286	0
CONM1	409	284	0
+409	410	281	0
CONM1	411	153	0
+411			
CONM1	412	154	0
+412			
CONM1	413	155	0
+413			
CONM1	414	156	0
+414			
CONM1	415	42	0
+415			
CONM1	416	71	0
+416			
CONM1	417	286	0
+417			
CONM1	418	284	0
+418			
CONM1	430	195	0
+430	-82.94		
CONM1	431	296	0
+431			
CONM1	432	296	0
+432			
CONM1	433	42	0
+433			
CONM1	434	437	0
+434			
CONM1	435	281	0
+435			
CONM1	436	410	0
+436			
CONM1	437	410	0
+437			
CONM1	438	410	0
+438			
CONM1	446	251	0
+446			
CONM1	447	252	0
+447			
CONM1	448	253	0
+448			
CONM1	449	254	0
+449			
CONM1	450	255	0
+450			
CONM1	451	256	0
+451			
CONM1	452	233	0
+452			
CONM1	453	257	0
+453			
CONM1	454	258	0
+454			
CONM1	455	259	0
+455			
CONM1	456	260	0
+456			
CONM1	457	261	0
+457			
CONM1	458	262	0
+458			
CONM1	459	263	0
+459			
CONM1	460	264	0
+460			
CONM1	461	265	0
+461			
CONM1	462	266	0
+462			
CONM1	501	407	0
+501			
CONM1	502	409	0
+502			
CONM1	503	367	0
+503			
CONM1	504	408	0
+504			
CONM1	505	368	0
+505			
CONM1	506	359	0
+506			
CONM1	507	384	0
+507			
CONM1	508	389	0
+508			
CONM1	509	369	0
+509			
CONM1	510	360	0
+510			
CONM1	511	385	0
+511			
CONM1	512	390	0
+512			
CONM1	513	370	0
+513			
CONM1	514	361	0
+514			
CONM1	515	386	0
+515			
CONM1	516	391	0
+516			
CONM1	517	371	0
+517			

+397
+398
+399
+400
+411
+411A
+412
+412A
+413
+413A
+414
+414A
+415
+415A
+416
+416A
+417
+417A
+418
+418A
+430
+431
+432
+434
+434A
+435
+435A
+436
+436A
+437
+437A
+446
+447
+448
+449
+450
+451
+452
+453
+454
+455
+456
+457
+458
+459
+460
+461
+462

3803477.

12204.0

1990.5

19.756

945062.

3604069.







CSHEAR	77	71	2034	2040	2037	2031
CSHEAR	78	72	2040	2048	2045	2037
CSHEAR	79	73	2048	2057	2054	2045
CSHEAR	80	74	2057	2069	2066	2054
CSHEAR	81	75	2069	2082	2121	2066
CSHEAR	82	76	2094	2079	2114	2121
CSHEAR	201	201	1465	1464	1466	1467
CSHEAR	202	202	1275	1276	1464	1465
CSHEAR	203	203	1280	1290	1276	1275
CSHEAR	204	204	1114	1079	1293	1292
CSHEAR	205	201	2465	2464	2466	2467
CSHEAR	206	202	2275	2276	2464	2465
CSHEAR	207	203	2280	2290	2276	2275
CSHEAR	208	204	2114	2079	2293	2292
CSHEAR	642	642	1075	1088	1087	1074
CSHEAR	646	646	1074	1087	1086	1073
CSHEAR	650	650	1073	1086	1085	1072
CSHEAR	651	651	1007	1018	1016	1006
CSHEAR	652	652	1006	1016	1180	1176
CSHEAR	653	653	1176	1180	1014	1005
CSHEAR	654	654	1005	1014	1179	1175
CSHEAR	655	655	1175	1179	1012	1004
CSHEAR	656	656	1004	1012	1178	1174
CSHEAR	657	657	1174	1178	1010	1003
CSHEAR	658	658	1003	1010	1177	1173
CSHEAR	659	659	1173	1177	1194	1002
CSHEAR	660	660	1002	1194	1008	1001
CSHEAR	1642	642	2075	2088	2087	2074
CSHEAR	1646	646	2074	2087	2086	2073
CSHEAR	1650	650	2073	2086	2085	2072
CSHEAR	1651	651	2007	2018	2016	2006
CSHEAR	1652	652	2006	2016	2180	2176
CSHEAR	1653	653	2176	2180	2014	2005
CSHEAR	1654	654	2005	2014	2179	2175
CSHEAR	1655	655	2175	2179	2012	2004
CSHEAR	1656	656	2004	2012	2178	2174
CSHEAR	1657	657	2174	2178	2010	2003
CSHEAR	1658	658	2003	2010	2177	2173
CSHEAR	1659	659	2173	2177	2194	2002
CSHEAR	1660	660	2002	2194	2008	2001
CTRIA3	606	606	1032	1039	1030	
CTRIA3	612	612	1181	1182	1029	
CTRIA3	617	617	1029	1044	1027	
CTRIA3	622	622	1187	1188	1026	
CTRIA3	626	626	1026	1052	1025	
CTRIA3	629	629	1064	1245	1063	
CTRIA3	630	630	1064	1077	1245	
CTRIA3	631	631	1077	1076	1245	
CTRIA3	636	636	1051	1023	1024	
CTRIA3	637	637	1051	1022	1023	
CTRIA3	638	638	1062	1022	1051	
CTRIA3	647	647	1019	1020	1060	
CTRIA3	1606	606	2032	2038	2030	
CTRIA3	1612	612	2181	2182	2029	
CTRIA3	1617	617	2029	2044	2029	
CTRIA3	1622	622	2187	2188	2026	
CTRIA3	1626	626	2026	2052	2025	
CTRIA3	1629	629	2064	2245	2063	
CTRIA3	1630	630	2064	2077	2245	
CTRIA3	1631	631	2077	2076	2245	
CTRIA3	1636	636	2051	2023	2024	
CTRIA3	1637	637	2051	2022	2023	
CTRIA3	1638	638	2062	2022	2051	
CTRIA3	1647	647	2019	2020	2060	
CTRIA6	706	706	1262	1257	1233	1518 1512 1517 +706
+706	99.5					
CTRIA6	1706	706	2262	2257	2233	2518 2512 2517 +1706
+1706	99.5					
DMIG	*VTAIL	0	6	1	0	
DMIG	*VTAIL	357			0.127440E+06	*9001
*9001	357	1				
DMIG	*VTAIL	358			1	*9002
*9002	357	1			-.217072E+05	*9003
*9003	358	1			0.680871E+05	
DMIG	*VTAIL	359			1	*9004
*9004	357	1			0.352175E+03	*9005
*9005	358	1			-.193333E+05	*9006
*9006	359	1			0.717224E+05	
DMIG	*VTAIL	360			1	*9007
*9007	357	1			0.456481E+03	*9008
*9008	358	1			-.301624E+03	*9009
*9009	359	1			-.903472E+04	*9010
*9010	360	1			0.507642E+05	
DMIG	*VTAIL	361			1	*9011
*9011	357	1			-.131707E+02	*9012
*9012	358	1			0.315215E+03	*9013
*9013	359	1			-.103102E+04	*9014
*9014	360	1			-.504458E+04	*9015
*9015	361	1			0.468148E+05	
DMIG	*VTAIL	362			1	*9016
*9016	357	1			0.739752E+00	*9017
*9017	358	1			-.313943E+02	*9018
*9018	359	1			0.841453E+02	*9019
*9019	360	1			0.764191E+02	*9020
*9020	361	1			-.117072E+05	*9021
*9021	362	1			0.484915E+05	
DMIG	*VTAIL	363			1	*9022
*9022	357	1			0.363626E+00	*9023
*9023	358	1			-.206621E+01	*9024
*9024	359	1			0.170371E+02	*9025
*9025	360	1			-.128679E+03	*9026
*9026	361	1			0.142936E+04	*9027
*9027	362	1			-.141053E+05	*9028
*9028	363	1			0.334950E+05	
DMIG	*VTAIL	364			1	*9029
*9029	357	1			-.178665E+00	*9030
*9030	358	1			0.286879E+01	*9031
*9031	359	1			-.179730E+02	*9032
*9032	360	1			0.822153E+02	*9033
*9033	361	1			-.308830E+03	*9034
*9034	362	1			0.163581E+04	*9035
*9035	363	1			-.934300E+04	*9036
*9036	364	1			0.133364E+05	
DMIG	*VTAIL	367			1	*9037

*9037	357	1	0.156429E+04	*9038
*9038	358	1	-.126722E+05	*9039
*9039	359	1	-.249630E+02	*9040
*9040	360	1	0.252357E+03	*9041
*9041	361	1	0.220342E+02	*9042
*9042	362	1	-.348368E+01	*9043
*9043	363	1	0.213553E-02	*9044
*9044	364	1	0.287588E+00	*9045
*9045	367	1	0.573159E+05	
DMIG	*VTAIL	368	1	*9046
*9046	357	1	0.150006E+03	*9047
*9047	358	1	-.349447E+04	*9048
*9048	359	1	-.184666E+05	*9049
*9049	360	1	-.597411E+03	*9050
*9050	361	1	0.413201E+03	*9051
*9051	362	1	-.489800E+02	*9052
*9052	363	1	-.271009E+00	*9053
*9053	364	1	-.202789E+01	*9054
*9054	367	1	-.502776E+04	*9055
*9055	368	1	0.246725E+05	
DMIG	*VTAIL	369	1	*9056
*9056	357	1	0.292477E+03	*9057
*9057	358	1	0.106678E+04	*9058
*9058	359	1	-.372974E+04	*9059
*9059	360	1	-.163066E+05	*9060
*9060	361	1	-.720338E+03	*9061
*9061	362	1	0.400484E+03	*9062
*9062	363	1	0.516936E+00	*9063
*9063	364	1	-.141972E+02	*9064
*9064	367	1	0.245134E+03	*9065
*9065	368	1	-.625047E+04	*9066
*9066	369	1	0.208907E+05	
DMIG	*VTAIL	370	1	*9067
*9067	357	1	0.109520E+02	*9068
*9068	358	1	-.429165E+02	*9069
*9069	359	1	0.371999E+03	*9070
*9070	360	1	-.238343E+04	*9071
*9071	361	1	-.147446E+05	*9072
*9072	362	1	0.690143E+03	*9073
*9073	363	1	0.723676E+03	*9074
*9074	364	1	0.244021E+02	*9075
*9075	367	1	-.574195E+02	*9076
*9076	368	1	0.416297E+03	*9077
*9077	369	1	-.416404E+04	*9078
*9078	370	1	0.182966E+05	
DMIG	*VTAIL	371	1	*9079
*9079	357	1	-.319898E+00	*9080
*9080	358	1	-.105520E+02	*9081
*9081	359	1	0.537074E+02	*9082
*9082	360	1	0.115046E+03	*9083
*9083	361	1	-.455381E+03	*9084
*9084	362	1	-.131301E+05	*9085
*9085	363	1	0.208463E+04	*9086
*9086	364	1	-.271085E+02	*9087
*9087	367	1	0.123231E+02	*9088
*9088	368	1	-.234544E+03	*9089
*9089	369	1	0.874696E+03	*9090
*9090	370	1	-.744486E+04	*9091
*9091	371	1	0.300624E+05	
DMIG	*VTAIL	372	1	*9092
*9092	357	1	0.463602E+00	*9093
*9093	358	1	-.677371E+01	*9094
*9094	359	1	-.134083E+02	*9095
*9095	360	1	0.577641E+02	*9096
*9096	361	1	0.669330E+02	*9097
*9097	362	1	-.915742E+03	*9098
*9098	363	1	-.544593E+04	*9099
*9099	364	1	0.116824E+04	*9100
*9100	367	1	-.794538E+01	*9101
*9101	368	1	0.789193E+02	*9102
*9102	369	1	-.316023E+03	*9103
*9103	370	1	0.187626E+04	*9104
*9104	371	1	-.192798E+05	*9105
*9105	372	1	0.276338E+05	
DMIG	*VTAIL	373	1	*9106
*9106	357	1	0.484957E-02	*9107
*9107	358	1	0.440965E+02	*9108
*9108	359	1	-.691597E+00	*9109
*9109	360	1	-.875753E+00	*9110
*9110	361	1	0.363362E+02	*9111
*9111	362	1	0.411035E+01	*9112
*9112	363	1	-.163347E+04	*9113
*9113	364	1	-.258823E+04	*9114
*9114	367	1	0.345739E+00	*9115
*9115	368	1	-.422117E+01	*9116
*9116	369	1	0.101714E+02	*9117
*9117	370	1	-.633944E+02	*9118
*9118	371	1	0.270474E+04	*9119
*9119	372	1	-.730833E+04	*9120
*9120	373	1	0.703131E+04	
DMIG	*VTAIL	375	1	*9121
*9121	357	1	-.230046E+04	*9122
*9122	358	1	-.497159E+05	*9123
*9123	359	1	0.157355E+04	*9124
*9124	360	1	0.126726E+04	*9125
*9125	361	1	0.195618E+03	*9126
*9126	362	1	-.247898E+02	*9127
*9127	363	1	0.635440E+01	*9128
*9128	364	1	-.784751E+00	*9129
*9129	367	1	0.378804E+03	*9130
*9130	368	1	-.142639E+04	*9131
*9131	369	1	0.123205E+04	*9132



\*9143 363 1 -243058E+02  
\*9144 364 1 0.583973E+00  
\*9145 367 1 0.194037E+04  
\*9146 368 1 0.129929E+04  
\*9147 369 1 0.235053E+04  
\*9148 370 1 0.756407E+03  
\*9149 371 1 0.771059E+02  
\*9150 372 1 -.600606E+00  
\*9151 373 1 0.197780E+01  
\*9152 375 1 -.311505E+05  
\*9153 376 1 0.109246E+06  
DMIG \*VTAIL 377  
\*9154 357 1 0.317443E+03  
\*9155 358 1 0.219380E+04  
\*9156 359 1 0.208271E+04  
\*9157 360 1 -.279276E+05  
\*9158 361 1 0.110103E+04  
\*9159 362 1 0.550257E+03  
\*9160 363 1 0.811533E+02  
\*9161 364 1 -.211053E+00  
\*9162 367 1 0.716540E+03  
\*9163 368 1 0.171546E+04  
\*9164 369 1 0.884905E+03  
\*9165 370 1 0.158823E+04  
\*9166 371 1 0.561757E+03  
\*9167 372 1 0.690199E+02  
\*9168 373 1 0.714289E+01  
\*9169 375 1 0.363833E+04  
\*9170 376 1 -.187741E+05  
\*9171 377 1 0.775901E+05  
DMIG \*VTAIL 378  
\*9172 357 1 -.110646E+02  
\*9173 358 1 0.133390E+03  
\*9174 359 1 0.711357E+03  
\*9175 360 1 0.202839E+04  
\*9176 361 1 -.261689E+05  
\*9177 362 1 0.139574E+04  
\*9178 363 1 0.872899E+03  
\*9179 364 1 0.177372E+03  
\*9180 367 1 0.741269E+02  
\*9181 368 1 0.487425E+03  
\*9182 369 1 0.121023E+04  
\*9183 370 1 0.188910E+04  
\*9184 371 1 0.140030E+04  
\*9185 372 1 0.265625E+03  
\*9186 373 1 0.127903E+03  
\*9187 375 1 -.234087E+03  
\*9188 376 1 0.178520E+04  
\*9189 377 1 -.113866E+05  
\*9190 378 1 0.701957E+05  
DMIG \*VTAIL 379  
\*9191 357 1 0.555097E+00  
\*9192 358 1 -.383492E+02  
\*9193 359 1 0.749947E+02  
\*9194 360 1 0.542347E+03  
\*9195 361 1 0.295398E+04  
\*9196 362 1 -.156110E+05  
\*9197 363 1 0.237945E+03  
\*9198 364 1 0.100000E+04  
\*9199 367 1 -.853152E+01  
\*9200 368 1 0.224612E+02  
\*9201 369 1 0.450535E+03  
\*9202 370 1 0.123586E+04  
\*9203 371 1 0.192022E+04  
\*9204 372 1 0.747017E+03  
\*9205 373 1 0.679657E+03  
\*9206 375 1 0.693183E+02  
\*9207 376 1 -.525747E+03  
\*9208 377 1 0.193872E+04  
\*9209 378 1 -.143803E+05  
\*9210 379 1 0.259716E+05  
DMIG \*VTAIL 380  
\*9211 357 1 -.681648E-01  
\*9212 358 1 0.121017E+01  
\*9213 359 1 -.388187E+01  
\*9214 360 1 0.424170E+02  
\*9215 361 1 0.491571E+03  
\*9216 362 1 0.156462E+04  
\*9217 363 1 -.188062E+05  
\*9218 364 1 -.222663E+04  
\*9219 367 1 0.511802E+00  
\*9220 368 1 -.337087E+01  
\*9221 369 1 0.222733E+02  
\*9222 370 1 0.254233E+03  
\*9223 371 1 0.570111E+03  
\*9224 372 1 0.211878E+04  
\*9225 373 1 0.303574E+03  
\*9226 375 1 -.236553E+02  
\*9227 376 1 0.872011E+02  
\*9228 377 1 -.226099E+03  
\*9229 378 1 0.236420E+04  
\*9230 379 1 -.100636E+05  
\*9231 380 1 0.832375E+05  
DMIG \*VTAIL 381  
\*9232 357 1 -.215496E-02  
\*9233 358 1 -.127980E+00  
\*9234 359 1 -.670087E+00  
\*9235 360 1 -.448327E+01  
\*9236 361 1 -.502647E+02  
\*9237 362 1 0.467089E+02  
\*9238 363 1 0.163977E+04  
\*9239 364 1 -.479445E+04  
\*9240 367 1 -.110671E+00  
\*9241 368 1 0.669332E+00  
\*9242 369 1 -.571058E+01  
\*9243 370 1 -.182164E+02  
\*9244 371 1 -.460481E+02  
\*9245 372 1 0.878765E+02  
\*9246 373 1 0.449404E+03  
\*9247 375 1 0.842499E+01  
\*9248 376 1 -.320128E+02  
\*9249 377 1 0.773381E+02  
\*9250 378 1 -.617478E+03  
\*9251 379 1 0.379035E+04

\*9144 380 1 -243058E+02  
\*9145 381 1 0.583973E+00  
\*9146 382 1 0.194037E+04  
\*9147 383 1 0.129929E+04  
\*9148 384 1 0.235053E+04  
\*9149 385 1 0.756407E+03  
\*9150 386 1 0.771059E+02  
\*9151 387 1 -.600606E+00  
\*9152 388 1 0.197780E+01  
\*9153 389 1 -.311505E+05  
\*9154 390 1 0.109246E+06  
\*9155 391 1 0.317443E+03  
\*9156 392 1 0.219380E+04  
\*9157 393 1 0.208271E+04  
\*9158 394 1 -.279276E+05  
\*9159 395 1 0.110103E+04  
\*9160 396 1 0.550257E+03  
\*9161 397 1 0.811533E+02  
\*9162 398 1 -.211053E+00  
\*9163 399 1 0.716540E+03  
\*9164 400 1 0.171546E+04  
\*9165 401 1 0.884905E+03  
\*9166 402 1 0.158823E+04  
\*9167 403 1 0.561757E+03  
\*9168 404 1 0.690199E+02  
\*9169 405 1 0.714289E+01  
\*9170 406 1 0.363833E+04  
\*9171 407 1 -.187741E+05  
\*9172 408 1 0.775901E+05  
\*9173 409 1 -.110646E+02  
\*9174 410 1 0.133390E+03  
\*9175 411 1 0.711357E+03  
\*9176 412 1 0.202839E+04  
\*9177 413 1 -.261689E+05  
\*9178 414 1 0.139574E+04  
\*9179 415 1 0.872899E+03  
\*9180 416 1 0.177372E+03  
\*9181 417 1 0.741269E+02  
\*9182 418 1 0.487425E+03  
\*9183 419 1 0.121023E+04  
\*9184 420 1 0.188910E+04  
\*9185 421 1 0.140030E+04  
\*9186 422 1 0.265625E+03  
\*9187 423 1 0.127903E+03  
\*9188 424 1 -.234087E+03  
\*9189 425 1 0.178520E+04  
\*9190 426 1 -.113866E+05  
\*9191 427 1 0.701957E+05  
\*9192 428 1 0.555097E+00  
\*9193 429 1 -.383492E+02  
\*9194 430 1 0.749947E+02  
\*9195 431 1 0.542347E+03  
\*9196 432 1 0.295398E+04  
\*9197 433 1 -.156110E+05  
\*9198 434 1 0.237945E+03  
\*9199 435 1 0.100000E+04  
\*9200 436 1 -.853152E+01  
\*9201 437 1 0.224612E+02  
\*9202 438 1 0.450535E+03  
\*9203 439 1 0.123586E+04  
\*9204 440 1 0.192022E+04  
\*9205 441 1 0.747017E+03  
\*9206 442 1 0.679657E+03  
\*9207 443 1 0.693183E+02  
\*9208 444 1 -.525747E+03  
\*9209 445 1 0.193872E+04  
\*9210 446 1 -.143803E+05  
\*9211 447 1 0.259716E+05  
\*9212 448 1 -.681648E-01  
\*9213 449 1 0.121017E+01  
\*9214 450 1 -.388187E+01  
\*9215 451 1 0.424170E+02  
\*9216 452 1 0.491571E+03  
\*9217 453 1 0.156462E+04  
\*9218 454 1 -.188062E+05  
\*9219 455 1 -.222663E+04  
\*9220 456 1 0.511802E+00  
\*9221 457 1 -.337087E+01  
\*9222 458 1 0.222733E+02  
\*9223 459 1 0.254233E+03  
\*9224 460 1 0.570111E+03  
\*9225 461 1 0.211878E+04  
\*9226 462 1 0.303574E+03  
\*9227 463 1 -.236553E+02  
\*9228 464 1 0.872011E+02  
\*9229 465 1 -.226099E+03  
\*9230 466 1 0.236420E+04  
\*9231 467 1 -.100636E+05  
\*9232 468 1 0.832375E+05  
\*9233 469 1 -.215496E-02  
\*9234 470 1 -.127980E+00  
\*9235 471 1 -.670087E+00  
\*9236 472 1 -.448327E+01  
\*9237 473 1 -.502647E+02  
\*9238 474 1 0.467089E+02  
\*9239 475 1 0.163977E+04  
\*9240 476 1 -.479445E+04  
\*9241 477 1 -.110671E+00  
\*9242 478 1 0.669332E+00  
\*9243 479 1 -.571058E+01  
\*9244 480 1 -.182164E+02  
\*9245 481 1 -.460481E+02  
\*9246 482 1 0.878765E+02  
\*9247 483 1 0.449404E+03  
\*9248 484 1 0.842499E+01  
\*9249 485 1 -.320128E+02  
\*9250 486 1 0.773381E+02  
\*9251 487 1 -.617478E+03  
\*9252 488 1 0.379035E+04

\*9252 380 1 -113558E+05  
\*9253 381 1 0.131793E+05  
DMIG \*VTAIL 382  
\*9254 357 1 -.211797E-02  
\*9255 358 1 0.196775E-01  
\*9256 359 1 -.154809E+00  
\*9257 360 1 0.835219E+00  
\*9258 361 1 0.461861E+01  
\*9259 362 1 0.180099E+02  
\*9260 363 1 0.393001E+02  
\*9261 364 1 0.813303E+03  
\*9262 365 1 0.352611E-02  
\*9263 366 1 -.218807E-01  
\*9264 367 1 0.135616E+00  
\*9265 368 1 0.447717E+01  
\*9266 369 1 0.122064E+02  
\*9267 370 1 0.882424E+01  
\*9268 371 1 -.479232E+02  
\*9269 372 1 0.117696E+00  
\*9270 373 1 -.551862E+00  
\*9271 374 1 0.991771E+00  
\*9272 375 1 -.439420E+01  
\*9273 376 1 -.139387E+03  
\*9274 377 1 0.164894E+04  
\*9275 378 1 -.475810E+03  
\*9276 379 1 0.179643E+04  
DMIG \*VTAIL 383  
\*9277 357 1 0.311274E-03  
\*9278 358 1 -.479934E-02  
\*9279 359 1 0.182106E-01  
\*9280 360 1 -.183852E+00  
\*9281 361 1 -.116182E+01  
\*9282 362 1 -.255904E+01  
\*9283 363 1 0.112750E+01  
\*9284 364 1 -.358622E+02  
\*9285 365 1 -.179107E-02  
\*9286 366 1 0.109064E-01  
\*9287 367 1 -.797350E-01  
\*9288 368 1 -.865236E+00  
\*9289 369 1 -.258080E+01  
\*9290 370 1 -.318473E+01  
\*9291 371 1 -.249386E+01  
\*9292 372 1 0.754849E-01  
\*9293 373 1 -.271080E+00  
\*9294 374 1 0.703442E+00  
\*9295 375 1 -.611849E+01  
\*9296 376 1 0.611220E+02  
\*9297 377 1 0.131850E+03  
\*9298 378 1 -.653645E+03  
\*9299 379 1 -.643881E+03  
\*9300 380 1 0.830302E+03  
DMIG \*VTAIL 384  
\*9301 357 1 0.265363E+05  
\*9302 358 1 0.282354E+05  
\*9303 359 1 -.948610E+04  
\*9304 360 1 -.219314E+04  
\*9305 361 1 -.475010E+03  
\*9306 362 1 0.553337E+02  
\*9307 363 1 0.194540E+01  
\*9308 364 1 -.384202E+01  
\*9309 365 1 0.284832E+04  
\*9310 366 1 -.116448E+04  
\*9311 367 1 -.338989E+04  
\*9312 368 1 -.157428E+03  
\*9313 369 1 0.485381E+02  
\*9314 370 1 -.926415E+01  
\*9315 371 1 -.122039E+01  
\*9316 372 1 -.569831E+06  
\*9317 373 1 -.948471E+05  
\*9318 374 1 -.370924E+04  
\*9319 375 1 -.157310E+03  
\*9320 376 1 0.111069E+03  
\*9321 377 1 -.182484E+02  
\*9322 378 1 0.664130E+01  
\*9323 379 1 0.991842E-01  
\*9324 380 1 0.593778E-01  
\*9325 381 1 0.149748E+07  
DMIG \*VTAIL 385  
\*9326 357 1 0.710800E+01  
\*9327 358 1 0.285959E+03  
\*9328 359 1 -.443238E+03  
\*9329 360 1 0.490161E+04  
\*9330 361 1 -.323369E+03  
\*9331 362 1 0.898562E+02  
\*9332 363 1 -.795076E+01  
\*9333 364 1 -.406666E+01  
\*9334 365 1 0.952642E+02  
\*9335 366 1 0.256148E+03  
\*9336 367 1 0.903557E+03  
\*9337 368 1 0.597779E+03  
\*9338 369 1 0.124134E+03  
\*9339 370 1 -.470681E+01  
\*9340 371 1 -.373270E+00  
\*9341 372 1 -.139221E+04  
\*9342 373 1 -.419824E+03  
\*9343 374 1 -.351213E+05  
\*9344 375 1 -.580778E+03  
\*9345 376 1 0.515640E+02  
\*9346 377 1 0.268160E+01  
\*9347 378 1 -.203257E+01  
\*9348 379 1 -.981071E-01  
\*9349 380 1 -.714582E-02  
\*9350 381 1 -.269212E+04  
\*9351 382 1 0.349451E+05  
DMIG \*VTAIL 386  
\*9352 357 1 0.106815E+00  
\*9353 358 1 -.224760E+02  
\*9354 359 1 0.196095E+03  
\*9355 360 1 -.359483E+03  
\*9356 361 1 0.606719E+04  
\*9357 362 1 0.117268E+03  
\*9358 363 1 0.281741E+03  
\*9359 364 1 -.195964E+02  
\*9360 365 1 -.452626E+00

\*9253 383 1 -113558E+05  
\*9254 384 1 0.131793E+05  
\*9255 385 1 -.211797E-02  
\*9256 386 1 0.196775E-01  
\*9257 387 1 -.154809E+00  
\*9258 388 1 0.835219E+00  
\*9259 389 1 0.461861E+01  
\*9260 390 1 0.180099E+02  
\*9261 391 1 0.393001E+02  
\*9262 392 1 0.813303E+03  
\*9263 393 1 0.352611E-02  
\*9264 394 1 -.218807E-01  
\*9265 395 1 0.135616E+00  
\*9266 396 1 0.447717E+01  
\*9267 397 1 0.122064E+02  
\*9268 398 1 0.882424E+01  
\*9269 399 1 -.479232E+02  
\*9270 400 1 0.117696E+00  
\*9271 401 1 -.551862E+00  
\*9272 402 1 0.991771E+00  
\*9273 403 1 -.439420E+01  
\*9274 404 1 -.139387E+03  
\*9275 405 1 0.164894E+04  
\*9276 406 1 -.475810E+03  
\*9277 407 1 0.179643E+04  
\*9278 408 1 0.311274E-03  
\*9279 409 1 -.479934E-02  
\*9280 410 1 0.182106E-01  
\*9281 411 1 -.183852E+00  
\*9282 412 1 -.116182E+01  
\*9283 413 1 -.255904E+01  
\*9284 414 1 0.112750E+01  
\*9285 415 1 -.358622E+02  
\*9286 416 1 -.179107E-02  
\*9287 417 1 0.109064E-01  
\*9288 418 1 -.797350E-01  
\*9289 419 1 -.865236E+00  
\*9290 420 1 -.258080E+01  
\*9291 421 1 -.318473E+01  
\*9292 422 1 -.249386E+01  
\*9293 423 1 0.754849E-01  
\*9294 424 1 -.271080E+00  
\*9295 425 1 0.703442E+00  
\*9296 426 1 -.611849E+01  
\*9297 427 1 0.611220E+02  
\*9298 428 1 0.131850E+03  
\*9299 429 1 -.653645E+03  
\*9300 430 1 -.643881E+03  
\*9301 431 1 0.830302E+03  
\*9302 432 1 0.265363E+05  
\*9303 433 1 0.282354E+05  
\*9304 434 1 -.948610E+04  
\*9305 435 1 -.219314E+04  
\*9306 436 1 -.475010E+03  
\*9307 437 1 0.553337E+02  
\*9308 438 1 0.194540E+01  
\*9309 439 1 -.384202E+01  
\*9310 440 1 0.284832E+04  
\*9311 441 1 -.116448E+04  
\*9312 442 1 -.338989E+04  
\*9313 443 1 -.157428E+03  
\*9314 444 1 0.485381E+02  
\*9315 445 1 -.926415E+01  
\*9316 446 1 -.122039E+01  
\*9317 447 1 -.569831E+06  
\*9318 448 1 -.948471E+05  
\*9319 449 1 -.370924E+04  
\*9320 450 1 -.157310E+03  
\*9321 451 1 0.111069E+03  
\*9322 452 1 -.182484E+02  
\*9323 453 1 0.664130E+01  
\*9324 454 1 0.991842E-01  
\*9325 455 1 0.593778E-01  
\*9326 456 1 0.149748E+07  
\*9327 457 1 0.710800E+01  
\*9328 458 1 0.285959E+03  
\*9329 459 1 -.443238E+03  
\*9330 460 1 0.490161E+04  
\*9331 461 1 -.323369E+03  
\*9332 462 1 0.898562E+02  
\*9333 463 1 -.795076E+01  
\*9334 464 1 -.406666E+01  
\*9335 465 1 0.952642E+02  
\*9336 466 1 0.256148E+03  
\*9337 467 1 0.903557E+03  
\*9338 468 1 0.597779E+03  
\*9339 469 1 0.124134E+03  
\*9340 470 1 -.470681E+01  
\*9341 471 1 -.373270E+00  
\*9342 472 1 -.139221E+04  
\*9343 473 1 -.419824E+03  
\*9344 474 1 -.351213E+05  
\*9345 475 1 -.580778E+03  
\*9346 476 1 0.515640E+02  
\*9347 477 1 0.268160E+01  
\*9348 478 1 -.203257E+01  
\*9349 479 1 -.981071E-01  
\*9350 480 1 -.714582E-02  
\*9351 481 1 -.269212E+04  
\*9352 482 1 0.349451E+05  
\*9353 483 1 0.106815E+00  
\*9354 484 1 -.224760E+02  
\*9355 485 1 0.196095E+03  
\*9356 486 1 -.359483E+03  
\*9357 487 1 0.606719E+04  
\*9358 488 1 0.117268E+03  
\*9359 489 1 0.281741E+03  
\*9360 490 1 -.195964E+02  
\*9361 491 1 -.452626E+00



*9361	368	1	0.496996E+02
*9362	369	1	0.352965E+03
*9363	370	1	-1.42282E+03
*9364	371	1	0.322191E+03
*9365	372	1	0.854219E+02
*9366	373	1	0.160192E+02
*9367	375	1	0.323717E+03
*9368	376	1	-3.18383E+02
*9369	377	1	-4.20586E+03
*9370	378	1	-3.14870E+05
*9371	379	1	-6.89858E+03
*9372	380	1	0.423422E+01
*9373	381	1	0.102897E+02
*9374	382	1	0.527408E+00
*9375	383	1	0.337155E-01
*9376	384	1	0.643374E+03
*9377	385	1	-3.57044E+04
*9378	386	1	0.322247E+05
DMIG *VTAIL	387	1	
*9379	357	1	-3.38835E+00
*9380	358	1	-5.46516E-01
*9381	359	1	0.188194E+00
*9382	360	1	0.399533E-01
*9383	361	1	0.777587E-02
*9384	362	1	-9.05881E-03
*9385	363	1	0.475235E-04
*9386	364	1	0.368288E-04
*9387	367	1	-1.49039E-01
*9388	368	1	0.085053E-01
*9389	369	1	0.672132E-01
*9390	370	1	0.462911E-02
*9391	371	1	-8.49053E-03
*9392	372	1	0.795566E-04
*9393	373	1	0.977434E-05
*9394	375	1	-9.60622E+02
*9395	376	1	0.984160E+00
*9396	377	1	0.481161E-01
*9397	378	1	-8.91686E-03
*9398	379	1	-7.53510E-03
*9399	380	1	-2.04675E-04
*9400	381	1	0.508574E-05
*9401	382	1	-6.08804E-07
*9402	383	1	0.551832E-07
*9403	384	1	-1.78513E+03
*9404	385	1	0.105938E+04
*9405	386	1	-4.19783E+04
*9406	387	1	0.497765E+04
DMIG *VTAIL	388	1	
*9407	357	1	0.396140E-01
*9408	358	1	-8.803404E-01
*9409	359	1	0.845446E+00
*9410	360	1	-4.68879E+01
*9411	361	1	0.502871E+02
*9412	362	1	0.250159E+03
*9413	363	1	0.874634E+04
*9414	364	1	0.134833E+04
*9415	367	1	0.310222E-01
*9416	368	1	-2.36734E+00
*9417	369	1	0.235626E+01
*9418	370	1	0.161871E+02
*9419	371	1	0.211136E+02
*9420	372	1	-9.61292E+03
*9421	373	1	0.278446E+03
*9422	375	1	0.102905E+02
*9423	376	1	-2.86084E+01
*9424	377	1	0.459790E+01
*9425	378	1	-2.25652E+02
*9426	379	1	-3.62756E+03
*9427	380	1	-5.13037E+05
*9428	381	1	-1.24016E+04
*9429	382	1	-3.03660E+04
*9430	383	1	-8.59051E+03
*9431	384	1	0.185899E+02
*9432	385	1	-1.06061E+03
*9433	386	1	0.590076E+03
*9434	387	1	-1.60275E+04
*9435	388	1	0.483130E+05
DMIG *VTAIL	389	1	
*9436	357	1	0.103213E+02
*9437	358	1	0.166475E+01
*9438	359	1	-5.73260E+01
*9439	360	1	-1.21702E+01
*9440	361	1	-2.36861E+00
*9441	362	1	0.275941E-01
*9442	363	1	-1.44762E-02
*9443	364	1	-1.12184E-02
*9444	367	1	0.453988E+00
*9445	368	1	-2.69597E+01
*9446	369	1	-2.04739E+01
*9447	370	1	-1.41008E+00
*9448	371	1	0.258631E-01
*9449	372	1	-2.42338E-02
*9450	373	1	-2.97737E-03
*9451	375	1	0.292616E+04
*9452	376	1	-2.99786E+02
*9453	377	1	-1.46567E+01
*9454	378	1	0.271617E-01
*9455	379	1	0.229527E-01
*9456	380	1	0.623463E-03
*9457	381	1	-1.54917E-03
*9458	382	1	0.185448E-05
*9459	383	1	-1.68094E-05
*9460	384	1	-2.37751E+04
*9461	385	1	0.187243E+04
*9462	386	1	0.147890E+03
*9463	387	1	-4.64456E+02
*9464	388	1	0.463955E+01
*9465	389	1	0.507054E+04
DMIG *VTAIL	390	1	
*9466	384	1	0.243494E+04
*9467	385	1	-4.08017E+04
*9468	386	1	0.137165E+04
*9469	389	1	-4.14326E+04
*9470	390	1	0.591447E+04

*9362			
*9363			
*9364			
*9365			
*9366			
*9367			
*9368			
*9369			
*9370			
*9371			
*9372			
*9373			
*9374			
*9375			
*9376			
*9377			
*9378			
*9379			
*9380			
*9381			
*9382			
*9383			
*9384			
*9385			
*9386			
*9387			
*9388			
*9389			
*9390			
*9391			
*9392			
*9393			
*9394			
*9395			
*9396			
*9397			
*9398			
*9399			
*9400			
*9401			
*9402			
*9403			
*9404			
*9405			
*9406			
*9407			
*9408			
*9409			
*9410			
*9411			
*9412			
*9413			
*9414			
*9415			
*9416			
*9417			
*9418			
*9419			
*9420			
*9421			
*9422			
*9423			
*9424			
*9425			
*9426			
*9427			
*9428			
*9429			
*9430			
*9431			
*9432			
*9433			
*9434			
*9435			
*9436			
*9437			
*9438			
*9439			
*9440			
*9441			
*9442			
*9443			
*9444			
*9445			
*9446			
*9447			
*9448			
*9449			
*9450			
*9451			
*9452			
*9453			
*9454			
*9455			
*9456			
*9457			
*9458			
*9459			
*9460			
*9461			
*9462			
*9463			
*9464			
*9465			
*9466			
*9467			
*9468			
*9469			
*9470			

DMIG *VTAIL	391	1	
*9471	385	1	0.137165E+04
*9472	386	1	-2.273356E+04
*9473	387	1	0.123460E+04
*9474	389	1	0.729919E+02
*9475	390	1	-1.60803E+04
*9476	391	1	0.320895E+04
DMIG *VTAIL	392	1	
*9477	386	1	0.123460E+04
*9478	387	1	-1.83606E+04
*9479	388	1	0.532735E+03
*9480	389	1	-2.270690E+02
*9481	390	1	0.120338E+03
*9482	391	1	-1.61773E+04
*9483	392	1	0.207529E+04
DMIG *VTAIL	393	1	
*9484	387	1	0.571031E+03
*9485	388	1	-6.73689E+03
*9486	389	1	0.223540E+01
*9487	390	1	-9.93771E+01
*9488	391	1	0.711305E+02
*9489	392	1	-4.82110E+03
*9490	393	1	0.521340E+03
DMIG *VTAIL	406	1	
*9491	357	1	-1.73625E+05
*9492	358	1	-2.80045E+04
*9493	359	1	0.964342E+04
*9494	360	1	0.204728E+04
*9495	361	1	0.398450E+03
*9496	362	1	-4.64190E+02
*9497	363	1	0.243519E+01
*9498	364	1	0.180718E+01
*9499	367	1	-7.63702E+03
*9500	368	1	0.453518E+04
*9501	369	1	0.344413E+04
*9502	370	1	0.237204E+03
*9503	371	1	-4.35070E+02
*9504	372	1	0.407663E+01
*9505	373	1	0.500855E+00
*9506	375	1	-4.43406E+06
*9507	376	1	0.504302E+05
*9508	377	1	0.246556E+04
*9509	378	1	-4.56917E+02
*9510	379	1	-3.86113E+02
*9511	380	1	-1.04880E+01
*9512	381	1	0.260603E+00
*9513	382	1	-3.11963E-02
*9514	383	1	0.282769E-02
*9515	384	1	-9.68350E+06
*9516	385	1	0.197004E+04
*9517	386	1	-3.58031E+03
*9518	387	1	0.100278E+03
*9519	388	1	-1.01088E+02
*9520	389	1	-3.05457E+04
*9521	406	1	0.176490E+07
DMIG *VTAIL	407	1	
*9522	357	1	-9.11903E+05
*9523	358	1	0.728130E+04
*9524	359	1	0.231467E+03
*9525	360	1	-8.41305E+02
*9526	361	1	0.529257E+01
*9527	362	1	-9.84070E+00
*9528	363	1	0.155806E+00
*9529	364	1	0.153670E-01
*9530	367	1	-5.01667E+05
*9531	368	1	0.663999E+03
*9532	369	1	-9.18211E+02
*9533	370	1	-9.38795E+00
*9534	371	1	0.891667E+00
*9535	372	1	-9.55200E+00
*9536	373	1	0.604210E-01
*9537	375	1	-2.90253E+04
*9538	376	1	0.464443E+03
*9539	377	1	0.589231E+02
*9540	378	1	0.925670E+00
*9541	379	1	0.568770E+00
*9542	380	1	-9.65196E-01
*9543	381	1	0.253072E-01
*9544	382	1	0.225246E-03
*9545	383	1	0.233053E-03
*9546	384	1	0.675815E+04
*9547	385	1	-9.39438E+00
*9548	386	1	0.715953E+00
*9549	387	1	-3.79983E-01
*9550	388	1	0.102725E-01
*9551	389	1	0.115747E+01
*9552	406	1	-1.94711E+04
*9553	407	5	0.676867E+06
*9554	407	5	0.122983E+06
DMIG *VTAIL	407	5	
*9522	357	1	0.191080E+06
*9523	358	1	-3.56714E+05
*9524	359	1	-2.80960E+05
*9525	360	1	-1.60270E+04
*9526	361	1	-9.18511E+02
*9527	362	1	-1.56290E+02
*9528	363	1	0.105740E+02
*9529	364	1	-1.10634E+01
*9530	367	1	-8.04513E+06
*9531	368	1	-5.32051E+05



*9546	384	1	0.106276E+05	*9547	*9654	408	1	-1.10606E+05	*9655
*9547	385	1	-.226352E+02	*9548	*9655	409	5	0.437083E+07	
*9548	386	1	0.519700E+02	*9549	EIGR	1	MGIV	0.	
*9549	387	1	0.257476E+00	*9550	+EIG1	MAX		60.	
*9550	388	1	0.673053E+00	*9551	GRID	1	5	-136.6059.331 .000	0
*9551	389	1	-.784298E+01	*9552	GRID	2	5	-131.7509.602 .000	0
*9552	406	1	0.131935E+05	*9553	GRID	3	5	-100.75011.331 .000	0
*9553	407	5	0.195301E+08		GRID	4	5	-75.750 12.725 .000	0
DMIG	*VTAIL	408		*9587	GRID	5	5	-40.750 14.678 .000	0
*9587	357	1	0.744264E+03	*9588	GRID	6	5	0.000 17.047 .000	0
*9588	358	1	0.120044E+03	*9589	GRID	7	5	24.947 18.341 .000	0
*9589	359	1	-.413376E+03	*9590	GRID	8	5	-141.0943.076 .000	0
*9590	360	1	-.877589E+02	*9591	GRID	9	0	-170.615-371.062.000	5
*9591	361	1	-.170800E+02	*9592	GRID	10	5	-100.7503.353 .000	0
*9592	362	1	0.198980E+01	*9593	GRID	11	0	-145.429-352.988.000	5
*9593	363	1	-.104387E+00	*9594	GRID	12	5	-75.750 3.524 .000	0
*9594	364	1	-.808958E-01	*9595	GRID	13	0	-125.118-338.412.000	5
*9595	367	1	0.327369E+02	*9596	GRID	14	5	-40.750 3.763 .000	0
*9596	368	1	-.194405E+03	*9597	GRID	15	0	-96.682 -318.006.000	5
*9597	369	1	-.147636E+03	*9598	GRID	16	5	0.000 4.054 .000	0
*9598	370	1	-.101680E+02	*9599	GRID	17	0	-63.574 -294.247.000	5
*9599	371	1	0.186498E+01	*9600	GRID	18	5	14.758 4.143 .000	0
*9600	372	1	-.174749E+00	*9601	GRID	19	0	-180.000-381.378.000	0
*9601	373	1	-.214697E-01	*9602	GRID	20	0	-168.385-374.169.000	1
*9602	375	1	0.211004E+06	*9603	GRID	21	0	-157.000-366.154.000	0
*9603	376	1	-.216175E+04	*9604	GRID	22	0	-147.640-359.565.000	0
*9604	377	1	-.105689E+03	*9605	GRID	23	0	-143.035-356.324.000	1
*9605	378	1	0.195862E+01	*9606	GRID	24	0	-139.738-354.003.000	0
*9606	379	1	0.165511E+01	*9607	GRID	25	0	-122.591-341.932.000	1
*9607	380	1	0.449577E-01	*9608	GRID	26	0	-120.000-340.108.000	0
*9608	381	1	-.111710E-01	*9609	GRID	27	0	-93.970 -321.785.000	1
*9609	382	1	0.133726E-03	*9610	GRID	29	0	-86.000 -316.174.000	0
*9610	383	1	-.121212E-03	*9611	GRID	30	0	-60.647 -298.327.000	1
*9611	384	1	0.418267E+05	*9612	GRID	31	0	-41.500 -293.800.000	0
*9612	385	1	0.214221E+03	*9613	GRID	32	0	-54.216 -293.800.000	0
*9613	386	1	-.445492E+02	*9614	GRID	33	0	-41.500 -293.800.000	0
*9614	387	1	0.145153E+02	*9615	GRID	34	0	-25.500 -293.800.000	0
*9615	388	1	-.144600E+01	*9616	GRID	35	0	-25.500 -293.800.000	0
*9616	389	1	-.442150E+03	*9617	GRID	36	0	.000 -293.80 .000	0
*9617	406	1	-.361694E+06	*9618	GRID	37	0	-41.500 -308.500.000	0
*9618	407	5	-.565555E+03	*9619	GRID	38	0	-54.216 -310.784.000	0
*9619	407	1	0.834648E+02	*9620	GRID	39	0	-41.500 -308.500.000	0
*9620	408	1	0.109547E+06		GRID	40	0	-25.500 -308.500.000	0
DMIG	*VTAIL	409		*9656	GRID	41	0	-25.500 -308.500.000	0
*9656	357	1	-.262206E+05	*9657	GRID	42	0	.000 -308.50 .000	0
*9657	358	1	-.103588E+04	*9658	GRID	44	0	-86.000 -332.494.000	0
*9658	359	1	0.214164E+04	*9659	GRID	45	0	-41.500 -324.500.000	0
*9659	360	1	0.293531E+03	*9660	GRID	46	0	-54.216 -326.784.000	0
*9660	361	1	0.269486E+02	*9661	GRID	47	0	-41.500 -324.500.000	0
*9661	362	1	-.242846E+01	*9662	GRID	48	0	-25.500 -324.500.000	0
*9662	363	1	0.525678E-01	*9663	GRID	49	0	-25.500 -324.500.000	0
*9663	364	1	0.172746E+00	*9664	GRID	50	0	.000 -324.50 .000	0
*9664	367	1	0.323348E+04	*9665	GRID	51	0	-139.738-359.146.000	0
*9665	368	1	0.215706E+04	*9666	GRID	52	0	-120.000-354.601.000	0
*9666	369	1	0.503979E+03	*9667	GRID	53	0	-86.000 -348.494.000	0
*9667	370	1	0.246870E+02	*9668	GRID	54	0	-41.500 -340.500.000	0
*9668	371	1	-.255333E+01	*9669	GRID	55	0	-54.216 -342.784.000	0
*9669	372	1	0.824261E+00	*9670	GRID	56	0	-41.500 -340.500.000	0
*9670	373	1	0.127325E-01	*9671	GRID	57	0	-25.500 -340.500.000	0
*9671	375	1	-.458756E+05	*9672	GRID	58	0	-25.500 -340.500.000	0
*9672	376	1	0.207304E+03	*9673	GRID	59	0	.000 -340.50 .000	0
*9673	377	1	0.280582E+02	*9674	GRID	60	0	-168.385-379.292.000	0
*9674	378	1	-.203789E+02	*9675	GRID	61	0	-157.000-377.247.000	0
*9675	379	1	-.339806E+01	*9676	GRID	62	0	-139.738-374.146.000	0
*9676	380	1	-.120555E+00	*9677	GRID	63	0	-131.000-372.576.000	0
*9677	381	1	0.420144E-01	*9678	GRID	64	0	-120.000-370.601.000	0
*9678	382	1	0.823926E-04	*9679	GRID	65	0	-86.000 -364.494.000	0
*9679	383	1	0.414972E-03	*9680	GRID	66	0	-41.500 -356.500.000	0
*9680	384	1	0.520328E+05	*9681	GRID	67	0	-54.216 -358.784.000	0
*9681	385	1	0.124228E+01	*9682	GRID	68	0	-41.500 -356.500.000	0
*9682	386	1	-.178476E+01	*9683	GRID	69	0	-25.500 -356.500.000	0
*9683	387	1	-.785608E+00	*9684	GRID	70	0	-25.500 -356.500.000	0
*9684	388	1	0.666356E-01	*9685	GRID	71	0	.000 -356.50 .000	0
*9685	389	1	0.239304E+02	*9686	GRID	72	0	-180.000-398.678.000	0
*9686	406	1	-.402560E+05	*9687	GRID	73	0	-168.385-396.592.000	0
*9687	407	5	0.438355E+05	*9688	GRID	74	0	-157.000-394.547.000	0
*9688	407	1	0.785184E+04	*9689	GRID	75	0	-139.738-391.446.000	0
*9689	408	1	0.172562E+04	*9690	GRID	76	0	-131.000-389.876.000	7
*9690	409	5	0.179613E+06	*9691	GRID	77	0	-120.000-387.901.000	0
*9691	409	1	0.431661E+05		GRID	78	0	-86.000 -381.794.000	0
DMIG	*VTAIL	409		*9621	GRID	79	0	-29.250 -417.400.000	0
*9621	357	1	-.108056E+06	*9622	GRID	80	0	-54.216 -376.084.000	0
*9622	358	1	-.369272E+04	*9623	GRID	81	0	-41.500 -373.800.000	7
*9623	359	1	-.168866E+05	*9624	GRID	82	0	-25.500 -373.800.000	0
*9624	360	1	-.236393E+04	*9625	GRID	83	0	-25.500 -373.800.000	0
*9625	361	1	-.229630E+03	*9626	GRID	84	0	.000 -373.80 .000	0
*9626	362	1	0.221145E+02	*9627	GRID	85	0	-180.000-406.675.000	0
*9627	363	1	-.744120E+00	*9628	GRID	86	0	-168.385-406.191.000	0
*9628	364	1	-.145670E+01	*9629	GRID	87	0	-157.000-405.717.000	0
*9629	367	1	-.615575E+04	*9630	GRID	88	0	-139.738-404.997.000	0
*9630	368	1	-.153980E+05	*9631	GRID	89	0	-139.738-393.695.000	0
*9631	369	1	-.392419E+04	*9632	GRID	90	0	-130.626-392.267.000	0
*9632	370	1	-.182427E+03	*9633	GRID	91	0	-111.224-389.227.000	0
*9633	371	1	0.179957E+02	*9634	GRID	92	0	-85.970 -385.270.000	0
*9634	372	1	-.376324E+01	*9635	GRID	93	0	-53.000 -380.104.000	0
*9635	373	1	-.241942E+00	*9636	GRID	94	0	-29.250 -373.800.000	0
*9636	375	1	-.145521E+06	*9637	GRID	95	0	-41.500 -378.302.000	0
*9637	376	1	-.194645E+04	*9638	GRID	96	0	-139.738-397.461.000	0
*9638	377	1	-.813680E+03	*9639	GRID	97	0	-129.992-396.307.000	0
*9639	378	1	0.145115E+03	*9640	GRID	98	0	-110.476-393.998.000	0
*9640	379	1	0.267615E+02	*9641	GRID	99	0	-85.073 -390.992.000	0
*9641	380	1	0.128482E+01	*9642	GRID	100	0	-53.000 -387.196.000	0
*9642	381	1	-.454159E+00	*9643	GRID	101	0	-41.500 -385.835.000	0
*9643	382	1	-.347133E-02	*9644	GRID	102	0	-139.738-401.269.000	0
*9644	383	1	-.417601E-02	*9645	GRID	103	0	-129.345-400.438.000	0
*9645	384	1	-.184205E+06	*9646	GRID	104	0	-109.713-398.867.000	0
*9646	385	1	-.595504E+02	*9647	GRID	105	0	-84.160 -396.823.000	0
*9647	386	1	0.172236E+02	*9648	GRID	106	0	-53.000 -394.330.000	0
*9648	387	1	0.503546E+01	*9649	GRID	107	0	-41.500 -393.410.000	0
*9649	388	1	-.432889E+00	*9650	GRID	108	0	-139.738-404.997.000	0
*9650	389	1	-.153385E+03	*9651	GRID	109	0	-128.703-404.537.000	0
*9651	406	1	0.258026E+06	*9652	GRID	110	0	-108.954-403.714.000	0
*9652	407	5	0.882856E+05	*9653	GRID	111	0	-83.248 -402.642.000	0
*9653	407	1	0.627816E+05	*9654	GRID	112	0	-53.000 -401.381.000	0



GRID	113	0	-41.500	-400.902.000	0
GRID	114	0	-41.500	-417.400.000	0
GRID	115	0	-25.500	-417.400.000	0
GRID	116	0	-25.500	-417.400.000	0
GRID	117	0	.000	-417.40 .000	0
GRID	118	0	-39.431	-373.800.000	0
GRID	119	0	-38.792	-377.878.000	7
GRID	120	0	-32.600	-417.400.000	0
GRID	121	0	-41.500	-373.800.000	0
GRID	122	0	-120.926	-390.747.000	0
GRID	123	0	-101.524	-387.707.000	0
GRID	124	0	-70.415	-382.833.000	0
GRID	125	0	-120.235	-395.153.000	0
GRID	126	0	-100.719	-392.843.000	0
GRID	127	0	-69.427	-389.140.000	0
GRID	128	0	-119.530	-399.653.000	0
GRID	129	0	-99.898	-398.082.000	0
GRID	130	0	-68.420	-395.564.000	0
GRID	131	0	-118.830	-404.125.000	0
GRID	132	0	-99.081	-403.302.000	0
GRID	133	0	-67.414	-401.982.000	0
GRID	134	0	-139.738	-394.695.000	7
GRID	135	0	-130.473	-393.243.000	7
GRID	136	0	-120.773	-391.723.000	7
GRID	137	0	-111.071	-390.203.000	7
GRID	138	0	-101.371	-388.683.000	7
GRID	139	0	-85.817	-386.246.000	7
GRID	140	0	-70.262	-383.809.000	7
GRID	141	0	-53.000	-381.104.000	7
GRID	142	0	-41.500	-379.302.000	7
GRID	143	0	-180.000	-389.378.000	0
GRID	153	0	.000	-100.00 .000	0
GRID	154	0	.000	-160.00 .000	0
GRID	155	0	.000	-200.00 .000	0
GRID	156	0	.000	-252.50 .000	0
GRID	163	0	.000	-60.00 .000	0
GRID	164	0	.000	-78.80 .000	0
GRID	173	5	-116.25010.466	.000	0
GRID	174	5	-88.250 12.029	.000	0
GRID	175	5	-58.250 13.701	.000	0
GRID	176	5	-19.500 15.863	.000	0
GRID	177	5	-116.2503.247	.000	0
GRID	178	5	-88.250 3.438	.000	0
GRID	179	5	-58.250 3.643	.000	0
GRID	180	5	-19.500 3.908	.000	0
GRID	181	0	-71.000	-305.615.000	0
GRID	182	0	-71.000	-313.789.000	0
GRID	183	0	-71.000	-329.799.000	0
GRID	184	0	-71.000	-345.799.000	0
GRID	185	0	-71.000	-361.799.000	0
GRID	186	0	-71.000	-379.099.000	7
GRID	187	0	-102.000	-327.437.000	0
GRID	188	0	-102.000	-335.367.000	0
GRID	189	0	-102.000	-351.367.000	0
GRID	190	0	-102.000	-367.367.000	0
GRID	191	0	-102.000	-384.667.000	7
GRID	192	0	-131.000	-347.852.000	0
GRID	193	0	-131.000	-356.576.000	0
GRID	194	5	-131.7503.141	.000	0
GRID	195	0	.000	-385.600.000	0
GRID	196	0	.000	-447.000.000	0
GRID	233	0	-41.500	-497.5000.	0
GRID	241	0	-31.810	-497.500.000	0
GRID	242	0	-168.385	-387.292.000	0
GRID	243	0	-157.000	-385.247.000	0
GRID	244	0	-139.738	-382.146.000	0
GRID	245	0	-131.000	-380.576.000	0
GRID	251	0	-41.500	-463.0520.	0
GRID	252	0	-67.903	-482.9730.	0
GRID	253	0	-81.403	-493.1590.	0
GRID	254	0	-92.653	-501.6460.	0
GRID	255	0	-103.085	-509.5170.	0
GRID	256	0	-110.127	-514.8300.	0
GRID	257	0	-57.952	-504.9420.	0
GRID	258	0	-72.299	-513.2610.	0
GRID	259	0	-84.253	-520.1930.	0
GRID	260	0	-95.338	-526.6210.	0
GRID	261	0	-110.127	-535.1970.	0
GRID	262	0	-41.500	-541.2650.	0
GRID	263	0	-59.060	-542.4880.	0
GRID	264	0	-73.693	-543.5080.	0
GRID	265	0	-87.261	-544.4530.	0
GRID	266	0	-102.862	-545.5400.	0
GRID	267	0	.000	-153.25 .000	0
GRID	268	0	.000	-276.42 .000	0
GRID	271	0	-36.000	-469.194.000	0
GRID	272	0	-36.000	-497.500.000	0
GRID	273	0	-29.250	-497.500.000	0
GRID	274	0	-40.750	-497.500.000	0
GRID	275	0	-40.750	-479.550.000	0
GRID	276	0	-29.250	-479.550.000	0
GRID	277	0	-29.250	-479.550.000	0
GRID	278	0	-40.750	-469.194.000	0
GRID	279	0	-29.250	-469.194.000	0
GRID	280	0	-40.750	-462.820.000	0
GRID	281	0	.000	-479.55 .000	0
GRID	282	0	.000	-462.82 .000	0
GRID	283	0	.000	-446.10 .000	0
GRID	284	0	.000	-447.00 .000	0
GRID	285	0	.000	-424.00 .000	0
GRID	286	0	.000	-403.00 .000	0
GRID	290	0	-29.250	-462.820.000	0
GRID	291	0	-29.250	-462.820.000	0
GRID	292	0	-40.750	-446.100.000	0
GRID	293	0	-29.250	-446.100.000	0
GRID	294	0	-29.250	-446.100.000	0
GRID	295	0	-19.000	-446.100.000	0
GRID	296	0	.000	-426.400.000	0
GRID	298	0	.000	-385.60 .000	0
GRID	299	0	-33.570	-497.500.000	0
GRID	300	0	-19.000	-417.400.000	0
GRID	357	0	.000	-452.61825.500	0
GRID	358	0	.000	-469.42445.000	0
GRID	359	0	.000	-484.34962.317	0

GRID	360	0	.000	-501.18481.850	0
GRID	361	0	.000	-518.008101.371	0
GRID	362	0	.000	-527.582112.479	0
GRID	363	0	.000	-534.495120.500	0
GRID	364	0	.000	-538.374125.000	0
GRID	367	0	.000	-446.10044.849	0
GRID	368	0	.000	-472.31270.354	0
GRID	369	0	.000	-491.06888.605	0
GRID	370	0	.000	-509.812106.844	0
GRID	371	0	.000	-520.479117.222	0
GRID	372	0	.000	-523.847120.500	0
GRID	373	0	.000	-528.472125.000	0
GRID	375	0	.000	-492.59445.000	0
GRID	376	0	.000	-498.20753.064	0
GRID	377	0	.000	-512.83174.074	0
GRID	378	0	.000	-527.44695.070	0
GRID	379	0	.000	-535.762107.018	0
GRID	380	0	.000	-545.147120.500	0
GRID	381	0	.000	-548.279125.000	0
GRID	382	0	.000	-560.736120.500	0
GRID	383	0	.000	-563.088125.000	0
GRID	384	0	.000	-498.05345.000	0
GRID	385	0	.000	-516.03771.833	0
GRID	386	0	.000	-530.24093.204	0
GRID	387	0	.000	-538.321105.309	0
GRID	388	0	.000	-548.465120.500	0
GRID	389	0	.000	-521.28945.000	0
GRID	390	0	.000	-530.36462.367	0
GRID	391	0	.000	-542.27685.168	0
GRID	392	0	.000	-549.05598.142	0
GRID	393	0	.000	-560.736120.500	0
GRID	405	0	.000	-500.00 .000	0
GRID	406	0	.000	-498.24941.224	0
GRID	407	0	.000	-446.10025.500	0
GRID	408	0	.000	-509.89233.450	0
GRID	409	0	.000	-479.02125.500	0
GRID	410	0	.000	-426.40 .000	0
GRID	431	0	.000	-351.70 .000	0
GRID	437	0	.000	-325.40 .000	0
GRID	458	0	.000	-266.92 .000	0
GRID	459	0	.000	-274.55 .000	0
GRID	464	0	-29.250	-492.500.000	0
GRID	465	0	-40.750	-492.500.000	0
GRID	466	0	-29.250	-502.250.000	0
GRID	467	0	-40.750	-502.250.000	0
GRID	501	0	-54.702	-473.0130.	0
GRID	502	0	-74.653	-488.0660.	0
GRID	503	0	-87.028	-497.4020.	0
GRID	504	0	-97.869	-505.5820.	0
GRID	505	0	-106.606	-512.1740.	0
GRID	506	0	-41.5	-480.2760.	0
GRID	507	0	-62.928	-493.9580.	0
GRID	508	0	-76.851	-503.2100.	0
GRID	509	0	-88.453	-510.9200.	0
GRID	510	0	-99.212	-518.0690.	0
GRID	511	0	-110.127	-525.0140.	0
GRID	512	0	-49.726	-501.2210.	0
GRID	513	0	-65.126	-509.1020.	0
GRID	514	0	-78.276	-516.7270.	0
GRID	515	0	-89.796	-523.4070.	0
GRID	516	0	-102.733	-530.9090.	0
GRID	517	0	-41.5	-519.3830.	0
GRID	518	0	-49.726	-523.1040.	0
GRID	519	0	-65.680	-527.8750.	0
GRID	520	0	-78.973	-531.8050.	0
GRID	521	0	-91.3	-535.5370.	0
GRID	522	0	-106.495	-540.3680.	0
GRID	523	0	-50.28	-541.8760.	0
GRID	524	0	-66.376	-542.9980.	0
GRID	525	0	-80.477	-544.0080.	0
GRID	526	0	-95.062	-544.9960.	0
GRID	701	3	0.	0.	0
GRID	702	3	100.	0.	0
GRID	703	3	0.	0.	-100.
GRID	1001	5	-136.6059.331	-355	0
GRID	1002	5	-131.7509.602	-382	0
GRID	1003	5	-100.75011.331	-560	0
GRID	1004	5	-75.750 12.725	-700	0
GRID	1005	5	-40.750 14.678	-895	0
GRID	1006	5	0.000 17.047	1.115	0
GRID	1007	5	24.947 18.341	1.245	0
GRID	1008	5	-141.0943.076	.845	0
GRID	1010	5	-100.7503.353	1.150	0
GRID	1012	5	-75.750 3.524	1.410	0
GRID	1014	5	-40.750 3.763	1.765	0
GRID	1016	5	0.000 4.054	2.190	0
GRID	1018	5	14.758 4.143	2.080	0
GRID	1019	0	-180.000	-381.378.790	0
GRID	1020	0	-168.385	-374.169.965	1
GRID	1021	0	-157.000	-366.1541.156	0
GRID	1022	0	-147.680	-359.5651.284	0
GRID	1023	0	-143.035	-356.3241.358	1
GRID	1024	0	-139.738	-354.0031.400	0
GRID	1025	0	-122.591	-341.9321.635	1
GRID	1026	0	-120.000	-340.1081.663	0
GRID	1027	0	-93.970	-321.7852.018	1
GRID	1029	0	-86.000	-316.1742.124	0
GRID	1030	0	-60.647	-298.3272.534	1
GRID	1031	0	-41.500	-293.8004.750	0
GRID	1032	0	-54.216	-293.8002.600	0
GRID	1033	0	-41.500	-293.8003.209	0
GRID	1034	0	-25.500	-293.8009.850	0
GRID	1037	0	-41.500</		



GRID	1054	0	-41.500	-340.5005.450	0
GRID	1055	0	-54.216	-342.7842.426	0
GRID	1056	0	-41.500	-340.5002.598	0
GRID	1057	0	-25.500	-340.50010.750	0
GRID	1060	0	-168.385	-379.292.984	0
GRID	1061	0	-157.000	-377.2471.108	0
GRID	1062	0	-139.738	-374.1461.256	0
GRID	1063	0	-131.000	-372.5761.328	0
GRID	1064	0	-120.000	-370.6011.418	0
GRID	1065	0	-86.000	-364.4941.676	0
GRID	1066	0	-41.500	-356.5005.800	0
GRID	1067	0	-54.216	-358.7841.908	0
GRID	1068	0	-41.500	-356.5002.028	0
GRID	1069	0	-25.500	-356.50010.950	0
GRID	1072	0	-180.000	-398.678.330	0
GRID	1073	0	-168.385	-396.592.415	0
GRID	1074	0	-157.000	-394.547.508	0
GRID	1075	0	-139.738	-391.446.645	0
GRID	1076	0	-131.000	-389.876.706	7
GRID	1077	0	-120.000	-387.901.796	0
GRID	1078	0	-86.000	-381.7941.039	0
GRID	1079	0	-29.250	-417.4009.000	0
GRID	1080	0	-54.216	-376.0841.264	0
GRID	1081	0	-41.500	-373.8001.364	7
GRID	1082	0	-25.500	-373.80011.100	0
GRID	1085	0	-180.000	-406.675.075	0
GRID	1086	0	-168.385	-406.191.090	0
GRID	1087	0	-157.000	-405.717.115	0
GRID	1088	0	-139.738	-404.997.145	0
GRID	1094	0	-29.250	-373.8009.000	0
GRID	1096	0	-139.738	-397.461.429	0
GRID	1097	0	-129.992	-396.307.471	0
GRID	1098	0	-110.476	-393.998.557	0
GRID	1099	0	-85.073	-390.992.669	0
GRID	1100	0	-53.000	-387.196.810	0
GRID	1101	0	-41.500	-385.8352.659	0
GRID	1102	0	-139.738	-401.269.288	0
GRID	1103	0	-129.345	-400.438.318	0
GRID	1104	0	-109.713	-398.867.377	0
GRID	1105	0	-84.160	-396.823.453	0
GRID	1106	0	-53.000	-394.330.545	0
GRID	1107	0	-41.500	-393.4101.787	0
GRID	1108	0	-139.738	-404.997.150	0
GRID	1109	0	-128.703	-404.537.167	0
GRID	1110	0	-108.954	-403.714.198	0
GRID	1111	0	-83.248	-402.642.238	0
GRID	1112	0	-53.000	-401.381.285	0
GRID	1113	0	-41.500	-400.902.925	0
GRID	1114	0	-41.500	-417.4009.000	0
GRID	1121	0	-41.500	-373.8005.850	0
GRID	1125	0	-120.235	-395.153.514	0
GRID	1126	0	-100.719	-392.843.669	0
GRID	1127	0	-69.427	-389.140.737	0
GRID	1128	0	-119.530	-399.653.348	0
GRID	1129	0	-99.898	-398.082.406	0
GRID	1130	0	-68.420	-395.564.500	0
GRID	1131	0	-118.830	-404.125.182	0
GRID	1132	0	-99.081	-403.302.213	0
GRID	1133	0	-67.414	-401.982.263	0
GRID	1134	0	-139.738	-394.695.531	7
GRID	1135	0	-130.473	-393.243.585	7
GRID	1136	0	-120.773	-391.723.641	7
GRID	1137	0	-111.071	-390.203.697	7
GRID	1138	0	-101.371	-388.683.754	7
GRID	1139	0	-95.817	-386.246.844	7
GRID	1140	0	-70.262	-383.809.934	7
GRID	1141	0	-53.000	-381.1041.050	7
GRID	1142	0	-41.500	-379.3023.412	7
GRID	1143	0	-180.000	-389.378.675	0
GRID	1173	5	-116.25010.466	.453	0
GRID	1174	5	-88.250	12.029 .640	0
GRID	1175	5	-58.250	13.701 .795	0
GRID	1176	5	-19.500	15.863 1.015	0
GRID	1177	5	-116.2503.247	.990	0
GRID	1178	5	-88.250	3.438 1.303	0
GRID	1179	5	-58.250	3.643 1.590	0
GRID	1180	5	-19.500	3.908 1.980	0
GRID	1181	0	-71.000	-305.6152.359	0
GRID	1182	0	-71.000	-313.7992.486	0
GRID	1183	0	-71.000	-329.7992.524	0
GRID	1184	0	-71.000	-345.7992.242	0
GRID	1185	0	-71.000	-361.7991.776	0
GRID	1186	0	-71.000	-379.0991.138	7
GRID	1187	0	-102.000	-327.4371.904	0
GRID	1188	0	-102.000	-335.3672.032	0
GRID	1189	0	-102.000	-351.3671.954	0
GRID	1190	0	-102.000	-367.3671.559	0
GRID	1191	0	-102.000	-384.667.924	7
GRID	1192	0	-131.000	-347.8521.517	0
GRID	1193	0	-131.000	-356.5761.617	0
GRID	1194	5	-131.7503.141	.875	0
GRID	1233	0	-41.500	-497.5002.790	0
GRID	1242	0	-168.385	-387.292.764	0
GRID	1243	0	-157.000	-385.247.862	0
GRID	1244	0	-139.738	-382.1461.004	0
GRID	1245	0	-131.000	-380.5761.080	0
GRID	1251	0	-41.500	-463.0521.021	0
GRID	1252	0	-67.903	-482.973.716	0
GRID	1253	0	-81.403	-493.159.560	0
GRID	1254	0	-92.653	-501.646.430	0
GRID	1255	0	-103.085	-509.517.309	0
GRID	1256	0	-110.127	-514.830.228	0
GRID	1257	0	-57.952	-504.9422.503	0
GRID	1258	0	-72.299	-513.2611.801	0
GRID	1259	0	-84.253	-520.1931.437	0
GRID	1260	0	-95.338	-526.1211.091	0
GRID	1261	0	-110.127	-535.197.606	0
GRID	1262	0	-41.500	-541.265.833	0
GRID	1263	0	-59.060	-542.488.670	0
GRID	1264	0	-73.693	-543.508.531	0
GRID	1265	0	-87.261	-544.453.399	0
GRID	1266	0	-102.862	-545.540.248	0
GRID	1275	0	-40.750	-479.5505.000	0
GRID	1276	0	-29.250	-479.5506.150	0

GRID	1280	0	-40.750	-462.8205.500	0
GRID	1290	0	-29.250	-462.8207.000	0
GRID	1292	0	-40.750	-446.1005.650	0
GRID	1293	0	-29.250	-446.1007.000	0
GRID	1464	0	-29.250	-492.5004.500	0
GRID	1465	0	-40.750	-492.5004.750	0
GRID	1466	0	-29.250	-502.2503.000	0
GRID	1467	0	-40.750	-502.2504.250	0
GRID	1501	0	-54.702	-473.0130.868	0
GRID	1502	0	-74.653	-488.0660.638	0
GRID	1503	0	-87.028	-497.4020.495	0
GRID	1504	0	-97.869	-505.5820.370	0
GRID	1505	0	-106.606	-512.1740.268	0
GRID	1506	0	-41.5	-480.2761.906	0
GRID	1507	0	-62.928	-493.9581.610	0
GRID	1508	0	-76.851	-503.2101.180	0
GRID	1509	0	-88.453	-510.9200.934	0
GRID	1510	0	-99.212	-518.0690.700	0
GRID	1511	0	-110.127	-525.0140.417	0
GRID	1512	0	-49.726	-501.2212.646	0
GRID	1513	0	-65.126	-509.1022.152	0
GRID	1514	0	-78.276	-516.7271.619	0
GRID	1515	0	-89.796	-523.4071.264	0
GRID	1516	0	-102.733	-530.9090.848	0
GRID	1517	0	-41.5	-519.3831.812	0
GRID	1518	0	-49.726	-523.1041.668	0
GRID	1519	0	-65.680	-527.8751.236	0
GRID	1520	0	-78.973	-531.8050.984	0
GRID	1521	0	91.3	-535.5370.745	0
GRID	1522	0	-106.495	-540.3680.427	0
GRID	1523	0	-50.28	-541.8760.752	0
GRID	1524	0	-66.376	-542.9980.600	0
GRID	1525	0	-80.477	-544.0080.465	0
GRID	1526	0	-95.062	-544.9960.324	0
GRID	2001	5	-136.6059.331	-.355	0
GRID	2002	5	-131.7509.602	-.382	0
GRID	2003	5	-100.75011.331	-.560	0
GRID	2004	5	-75.750	12.725 -.700	0
GRID	2005	5	-40.750	14.678 -.895	0
GRID	2006	5	0.000	17.047 -1.115	0
GRID	2007	5	24.947	18.341 -1.245	0
GRID	2008	5	-141.0943.076	-.845	0
GRID	2010	5	-100.7503.353	-1.150	0
GRID	2012	5	-75.750	3.524 -1.410	0
GRID	2014	5	-40.750	3.763 -1.765	0
GRID	2016	5	0.000	4.054 -2.190	0
GRID	2018	5	14.758	4.143 -2.080	0
GRID	2019	5	-180.000	-381.378-.790	0
GRID	2020	0	-168.385	-374.169-.965	1
GRID	2021	0	-157.000	-366.154-.1.156	0
GRID	2022	0	-147.640	-359.565-1.284	0
GRID	2023	0	-143.035	-356.324-1.358	1
GRID	2024	0	-139.738	-354.003-1.400	0
GRID	2025	0	-122.591	-341.932-1.635	1
GRID	2026	0	-120.000	-340.108-1.663	0
GRID	2027	0	-93.970	-321.785-2.018	1
GRID	2029	0	-86.000	-316.174-2.124	0
GRID	2030	0	-60.647	-298.327-2.534	1
GRID	2031	0	-41.500	-293.800-4.750	0
GRID	2032	0	-54.216	-293.800-2.600	0
GRID	2033	0	-41.500	-293.800-3.209	0
GRID	2034	0	-25.500	-293.800-9.850	0
GRID	2037	0	-41.500	-308.500-5.350	0
GRID	2038	0	-54.216	-310.784-2.852	0
GRID	2039	0	-41.500	-308.500-3.166	0
GRID	2040	0	-25.500	-308.500-10.350	0
GRID	2044	0	-86.000	-332.494-2.350	0
GRID	2045	0	-41.500	-324.500-5.450	0
GRID	2046	0	-54.216	-326.784-2.750	0
GRID	2047	0	-41.500	-324.500-2.944	0
GRID	2048	0	-25.500	-324.500-10.350	0
GRID	2051	0	-139.738	-358.146-1.446	0
GRID	2052	0	-120.000	-354.601-1.763	0
GRID	2053	0	-86.000	-348.494-2.112	0
GRID	2054	0	-41.500	-340.500-5.450	0
GRID	2055	0	-54.216	-342.784-2.426	0
GRID	2056	0	-41.500	-340.500-2.598	0
GRID	2057	0	-25.500	-340.500-10.750	0
GRID	2060	0	-168.385	-379.292-.984	0
GRID	2061	0	-157.000	-377.247-1.108	0
GRID	2062	0	-139.738	-374.146-1.256	0
GRID	2063	0	-131.000	-372.576-1.328	0
GRID	2064	0	-120.000	-370.601-1.418	0
GRID	2065	0	-86.000	-364.494-1.676	0
GRID	2066	0	-41.500	-356.500-5.800	0
GRID	2067	0	-54.216	-358.784-1.908	0
GRID	2068	0	-41.500	-356.500-2.028	0
GRID	2069	0	-25.500	-356.500-10.950	0
GRID	2072	0	-180.000	-398.678-.330	0
GRID	2073	0	-168.385	-396.592-.415	0
GRID	2074	0	-157.000	-394.547-.508	0
GRID					



GRID	2106	0	-53.000	-394.330	-545	0
GRID	2107	0	-41.500	-393.410	-1.787	0
GRID	2108	0	-139.738	-404.997	-150	0
GRID	2109	0	-128.703	-404.537	-167	0
GRID	2110	0	-108.954	-403.714	-198	0
GRID	2111	0	-83.248	-402.642	-238	0
GRID	2112	0	-53.000	-401.381	-285	0
GRID	2113	0	-41.500	-400.902	-925	0
GRID	2114	0	-41.500	-417.400	-9.000	0
GRID	2121	0	-41.500	-373.800	-5.850	0
GRID	2125	0	-120.235	-395.153	-514	0
GRID	2126	0	-100.719	-392.843	-669	0
GRID	2127	0	-69.427	-389.140	-737	0
GRID	2128	0	-119.530	-399.653	-348	0
GRID	2129	0	-99.898	-398.082	-406	0
GRID	2130	0	-68.420	-395.564	-500	0
GRID	2131	0	-118.830	-404.125	-182	0
GRID	2132	0	-99.081	-403.302	-213	0
GRID	2133	0	-67.414	-401.982	-263	0
GRID	2134	0	-139.738	-394.695	-531	7
GRID	2135	0	-130.473	-393.243	-585	7
GRID	2136	0	-120.773	-391.723	-641	7
GRID	2137	0	-111.671	-390.203	-697	7
GRID	2138	0	-101.371	-388.683	-754	7
GRID	2139	0	-85.817	-386.246	-844	7
GRID	2140	0	-70.262	-383.809	-934	7
GRID	2141	0	-53.000	-381.104	-1.050	7
GRID	2142	0	-41.500	-379.302	-3.412	7
GRID	2143	0	-180.000	-389.378	-675	0
GRID	2173	5	-116.250	10.466	-453	0
GRID	2174	5	-88.250	12.029	-680	0
GRID	2175	5	-58.250	13.701	-785	0
GRID	2176	5	-19.500	15.863	-1.015	0
GRID	2177	5	-116.250	3.247	-990	0
GRID	2178	5	-88.250	3.438	-1.303	0
GRID	2179	5	-58.250	3.643	-1.590	0
GRID	2180	5	-19.500	3.908	-1.980	0
GRID	2181	0	-71.000	-305.615	-2.359	0
GRID	2182	0	-71.000	-313.799	-2.486	0
GRID	2183	0	-71.000	-329.799	-2.524	0
GRID	2184	0	-71.000	-345.799	-2.242	0
GRID	2185	0	-71.000	-361.799	-1.776	0
GRID	2186	0	-71.000	-379.099	-1.138	7
GRID	2187	0	-102.000	-327.437	-1.904	0
GRID	2188	0	-102.000	-335.367	-2.032	0
GRID	2189	0	-102.000	-351.367	-1.954	0
GRID	2190	0	-102.000	-367.367	-1.559	0
GRID	2191	0	-102.000	-384.667	-924	7
GRID	2192	0	-131.000	-347.852	-1.517	0
GRID	2193	0	-131.000	-356.576	-1.617	0
GRID	2194	5	-131.750	3.141	-875	0
GRID	2233	0	-41.500	-497.500	-2.790	0
GRID	2242	0	-168.385	-387.292	-764	0
GRID	2243	0	-157.000	-385.247	-862	0
GRID	2244	0	-139.738	-382.146	-1.004	0
GRID	2245	0	-131.000	-380.576	-1.080	0
GRID	2251	0	-41.500	-463.052	-1.021	0
GRID	2252	0	-67.903	-482.973	-716	0
GRID	2253	0	-81.403	-493.159	-560	0
GRID	2254	0	-92.653	-501.646	-430	0
GRID	2255	0	-103.085	-509.517	-309	0
GRID	2256	0	-110.127	-514.830	-228	0
GRID	2257	0	-57.952	-504.942	-2.503	0
GRID	2258	0	-72.299	-513.261	-1.801	0
GRID	2259	0	-84.253	-520.193	-1.437	0
GRID	2260	0	-95.338	-526.621	-1.091	0
GRID	2261	0	-110.127	-535.197	-606	0
GRID	2262	0	-41.500	-541.265	-833	0
GRID	2263	0	-59.060	-542.488	-870	0
GRID	2264	0	-73.693	-543.508	-531	0
GRID	2265	0	-87.261	-544.453	-399	0
GRID	2266	0	-102.862	-545.540	-248	0
GRID	2275	0	-40.750	-479.550	-5.000	0
GRID	2276	0	-29.250	-479.550	-6.150	0
GRID	2280	0	-40.750	-462.820	-5.500	0
GRID	2290	0	-29.250	-462.820	-7.000	0
GRID	2292	0	-40.750	-446.100	-5.650	0
GRID	2293	0	-29.250	-446.100	-7.000	0
GRID	2464	0	-29.250	-492.500	-4.500	0
GRID	2465	0	-40.750	-492.500	-4.750	0
GRID	2466	0	-29.250	-502.250	-3.000	0
GRID	2467	0	-40.750	-502.250	-4.250	0
GRID	2501	0	-54.702	-473.013	-0.868	0
GRID	2502	0	-74.653	-488.066	-0.638	0
GRID	2503	0	-87.028	-497.402	-0.495	0
GRID	2504	0	-97.869	-505.582	-0.370	0
GRID	2505	0	-106.606	-512.174	-0.268	0
GRID	2506	0	-41.5	-480.276	-1.906	0
GRID	2507	0	-62.928	-493.958	-1.610	0
GRID	2508	0	-76.851	-503.210	-1.180	0
GRID	2509	0	-88.453	-510.920	-0.934	0
GRID	2510	0	-99.212	-518.069	-0.700	0
GRID	2511	0	-110.127	-525.014	-0.417	0
GRID	2512	0	-49.726	-501.221	-2.646	0
GRID	2513	0	-65.126	-509.102	-2.152	0
GRID	2514	0	-78.276	-516.727	-1.619	0
GRID	2515	0	-89.796	-523.407	-1.264	0
GRID	2516	0	-102.733	-530.909	-0.848	0
GRID	2517	0	-41.5	-519.383	-1.812	0
GRID	2518	0	-49.726	-523.104	-1.668	0
GRID	2519	0	-65.680	-527.875	-1.236	0
GRID	2520	0	-78.973	-531.805	-0.984	0
GRID	2521	0	-91.3	-535.537	-0.745	0
GRID	2522	0	-106.495	-540.368	-0.427	0
GRID	2523	0	-50.28	-541.876	-0.752	0
GRID	2524	0	-66.376	-542.998	-0.600	0
GRID	2525	0	-80.477	-544.008	-0.465	0
GRID	2526	0	-95.062	-544.996	-0.324	0
GRID	3016	0	-180.0	-391.3910.		0
GRID	3017	0	-182.88	-319.4	0.	0
GRID	3018	0	-182.88	-346.1950.		0
GRID	3019	0	-182.88	-376.6750.		0
GRID	3020	0	-182.88	-381.3780.		0
GRID	3021	0	-182.88	-391.3910.		0

GRID	3022	0	-182.88	-400.6450.		0
GRID	3500	0	-120.	-335.09	-25.	
GRID	3501	0	-120.	-346.07	-11.20	
MAT1	1		10.5E6	5.53E6		
MAT1	2		10.5E6	4.0E6		
MAT1	3		.999999E8	.999999E8		
MAT1	4		10.5E6	.999999E8		
MAT1	5		10.5E6	4.400E6		
MAT1	601		3.150E6	4.400E6		
MAT1	606		6.825E6	4.400E6		
MAT2	701		8681000.	2159000.	-78300.	2558000.
MAT2	702		7047000.	2537000.	-160600.	8488000.
MAT2	703		6618000.	2464000.	-254500.	8980000.
MAT2	704		6501000.	2411000.	-94900.	9416000.
MAT2	705		6047000.	2622000.	-109000.	9502000.
MAT2	706		7849000.	2569000.	-130600.	7900000.
MAT2	707		7849000.	2569000.	-130000.	7902000.
MAT2	708		6516000.	2481000.	-178900.	9219000.
MAT2	709		6299000.	2424000.	-149500.	9651000.
MAT2	710		6427000.	2319000.	-413300.	9734000.
PARAM	GRDPNT	0				
PARAM	WTMASS	0.00258				
PBAR	27	2	100.	9999.	9999.	9999.
PBAR	2401	2	100.0	100.0	.00001	.001
+2401						+2401
+2401A	1.	.00000001				+2401A
PBAR	2402	2	100.0	100.0	.00001	.001
+2402						+2402
+2402A	1.	.00000001				+2402A
PBAR	2403	2	100.0	100.0	.00001	.001
+2403						+2403
+2403A	1.	.00000001				+2403A
PBAR	2404	2	100.0	100.0	.00001	.001
+2404						+2404
+2404A	1.	.00000001				+2404A
PBAR	2405	2	100.0	100.0	.00001	.001
+2405						+2405
+2405A	1.	.00000001				+2405A
PBAR	2406	2	100.0	100.0	.00001	.001
+2406						+2406
+2406A	1.	.00000001				+2406A
PBAR	2407	2	100.0	100.0	.00001	.001
+2407						+2407
+2407A	1.	.00000001				+2407A
PBAR	2408	2	100.0	100.0	.00001	.001
+2408						+2408
+2408A	1.	.00000001				+2408A
PBAR	2409	2	100.0	100.0	.00001	.001
+2409						+2409
+2409A	1.	.00000001				+2409A
PBAR	2410	2	100.0	100.0	.00001	.001
+2410						+2410
+2410A	1.	.00000001				+2410A
PBAR	2411	2	100.0	100.0	.00001	.001
+2411						+2411
+2411A	1.	.00000001				+2411A
PBAR	2412	2	100.0	100.0	.00001	.001
+2412						+2412
+2412A	1.	.00000001				+2412A
PBAR	2413	2	100.0	100.0	.00001	.001
+2413						+2413
+2413A	1.	.00000001				+2413A
PBAR	2414	2	100.0	100.0	.00001	.001
+2414						+2414
+2414A	1.	.00000001				+2414A
PBAR	2415	2	100.0	100.0	.00001	.001
+2415						+2415
+2415A	1.	.00000001				+2415A
PBAR	2416	2	100.0	100.0	.00001	.001
+2416						+2416
+2416A	1.	.00000001				+2416A
PBAR	2417	2	100.0	100.0	.00001	.001
+2417						+2417
+2417A	1.	.00000001				+2417A
PBAR	2418	2	100.0	100.0	.00001	.001
+2418						+2418
+2418A	1.	.00000001				+2418A
PBAR	2419	2	100.0	100.0	.00001	.001
+2419						+2419
+2419A	1.	.00000001				+2419A
PBAR	2420	2	100.0	100.0	.00001	.001
+2420						+2420
+2420A	1.	.00000001				+2420A
PBAR	2421	2	100.0	100.0	.00001	.001
+2421						+2421
+2421A	1.	.00000001				+2421A
PBAR	2422	2	100.0	100.0	.00001	.001
+2422						+2422
+2422A	1.	.00000001				+2422A
PBAR	2423					



+2431									
+2431A	1.	.00000001							
PBAR	2432	2	100.0	100.0	.000001	.001			
+2432									
+2432A	1.	.00000001							
PBAR	2433	2	100.0	100.0	.000001	.001			
+2433									
+2433A	1.	.00000001							
PBAR	2434	2	100.0	100.0	.000001	.001			
+2434									
+2434A	1.	.00000001							
PBAR	2435	2	100.0	100.0	.000001	.001			
+2435									
+2435A	1.	.00000001							
PBAR	2436	2	100.0	100.0	.000001	.001			
+2436									
+2436A	1.	.00000001							
PBAR	2437	2	100.0	100.0	.000001	.001			
+2437									
+2437A	1.	.00000001							
PBAR	2438	2	100.0	100.0	.000001	.001			
+2438									
+2438A	1.	.00000001							
PBAR	2439	2	100.0	100.0	.000001	.001			
+2439									
+2439A	1.	.00000001							
PBAR	2440	2	100.0	100.0	.000001	.001			
+2440									
+2440A	1.	.00000001							
PBAR	2441	2	100.0	100.0	.000001	.001			
+2441									
+2441A	1.	.00000001							
PBAR	2442	2	100.0	100.0	.000001	.001			
+2442									
+2442A	1.	.00000001							
PBAR	2443	2	100.0	100.0	.000001	.001			
+2443									
+2443A	1.	.00000001							
PBAR	2444	2	100.0	100.0	.000001	.001			
+2444									
+2444A	1.	.00000001							
PBAR	2445	2	100.0	100.0	.000001	.001			
+2445									
+2445A	1.	.00000001							
PBAR	2446	2	100.0	100.0	.000001	.001			
+2446									
+2446A	1.	.00000001							
PBAR	2447	2	100.0	100.0	.000001	.001			
+2447									
+2447A	1.	.00000001							
PBAR	2448	2	100.0	100.0	.000001	.001			
+2448									
+2448A	1.	.00000001							
PBAR	2449	2	100.0	100.0	.000001	.001			
+2449									
+2449A	1.	.00000001							
PBAR	2450	2	100.0	100.0	.000001	.001			
+2450									
+2450A	1.	.00000001							
PBAR	2451	2	100.0	100.0	.000001	.001			
+2451									
+2451A	1.	.00000001							
PBAR	2452	2	100.0	100.0	.000001	.001			
+2452									
+2452A	1.	.00000001							
PBAR	2453	2	100.0	100.0	.000001	.001			
+2453									
+2453A	1.	.00000001							
PBAR	2454	2	100.0	100.0	.000001	.001			
+2454									
+2454A	1.	.00000001							
PBAR	2455	2	100.0	100.0	.000001	.001			
+2455									
+2455A	1.	.00000001							
PBAR	2456	2	100.0	100.0	.000001	.001			
+2456									
+2456A	1.	.00000001							
PBAR	2457	2	100.0	100.0	.000001	.001			
+2457									
+2457A	1.	.00000001							
PBAR	2458	2	100.0	100.0	.000001	.001			
+2458									
+2458A	1.	.00000001							
PBAR	2459	2	100.0	100.0	.000001	.001			
+2459									
+2459A	1.	.00000001							
PBAR	2460	2	100.0	100.0	.000001	.001			
+2460									
+2460A	1.	.00000001							
PBAR	3502	2	10000.	99990.	99990.	99990.			
PBEAM	1	2	.690	480.000	371.450	.001			
+1	NO	1.0		593.000	547.400				
+1A	0.	1.							
PBEAM	2	2	.690	593.000	547.400	.001			
+2	NO	1.0		736.000	606.050				
+2A	0.	1.							
PBEAM	3	2	4.140	896.000	655.500	640.			
+3	NO	1.0		912.000	656.500				
+3A	0.	1.							
PBEAM	4	2	4.140	912.000	656.500	2175.			
+4	NO	1.0		3104.000	1780.000				
+4A	0.	1.							
PBEAM	5	2	4.140	3104.000	1780.000	2770.			
+5	NO	1.0		6240.000	3625.000				
+5A	0.	1.							
PBEAM	6	2	3.600	8000.000	4245.000	5250.			
+6	NO	1.0		7900.000	4430.000				
+6A	0.	1.							
PBEAM	7	2	1980.000	7900.000	4430.000	5250.			
+7	NO	1.0		8100.000	4170.000				
+7A	0.	1.							
PBEAM	8	2	1980.000	8100.000	4170.000	5250.			
+8	NO	1.0		9400.000	3900.000				
+8A	0.	1.							

+2431A									
+2432									
+2432A									
+2433									
+2433A									
+2434									
+2434A									
+2435									
+2435A									
+2436									
+2436A									
+2437									
+2437A									
+2438									
+2438A									
+2439									
+2439A									
+2440									
+2440A									
+2441									
+2441A									
+2442									
+2442A									
+2443									
+2443A									
+2444									
+2444A									
+2445									
+2445A									
+2446									
+2446A									
+2447									
+2447A									
+2448									
+2448A									
+2449									
+2449A									
+2450									
+2450A									
+2451									
+2451A									
+2452									
+2452A									
+2453									
+2453A									
+2454									
+2454A									
+2455									
+2455A									
+2456									
+2456A									
+2457									
+2457A									
+2458									
+2458A									
+2459									
+2459A									
+2460									
+2460A									
+1									
+1A									
+2									
+2A									
+3									
+3A									
+4									
+4A									
+5									
+5A									
+6									
+6A									
+7									
+7A									
+8									
+8A									

PBEAM	9	2	1980.000	9400.000	3900.000	5250.		+9
+9	NO	1.0		9400.000	3887.062			+9A
+9A	0.	1.						
PBEAM	10	2	1980.000	9400.000	3887.062	5250.		+10
+10	NO	1.0		10100.000	3670.000			+10A
+10A	0.	1.						
PBEAM	11	2	1980.000	10100.000	3670.000	5250.		+11
+11	NO	1.0		1000.000	3691.000			+11A
+11A	0.	1.						
PBEAM	12	2	1980.000	1000.000	3691.000	5250.		+12
+12	NO	1.0		9600.000	3700.000			+12A
+12A	0.	1.						
PBEAM	13	2	1980.000	9600.000	3700.000	5250.		+13
+13	NO	1.0		8750.000	3780.000			+13A
+13A	0.	1.						
PBEAM	14	2	1980.000	8750.000	3780.000	5250.		+14
+14	NO	1.0		8123.630	3590.000			+14A
+14A	0.	1.						



PBEAM	144	2	2.800	1.	61.49	.001	+144	+1007	NO	1.	0.5704	4.188	+1007A
+144	NO	1.0	3.080		76.54		+144A	+1007A	0.	1.	-9.23-2		
+144A	0.	1.		-.0952				PBEAM	1009	2	0.05068	1.	7.4
PBEAM	145	2	3.080	1.	76.54	.001	+145	+1009	NO	1.	0.05704		+1009A
+145	NO	1.0	3.080		76.54		+145A	+1009A	0.	1.		-118	
+145A	0.	1.		.0000				PBEAM	1010	2	0.68448	1.	11.387
PBEAM	146	2	.990	1.	44.68	.001	+146	+1010	NO	1.	0.65988		10.584
+146	NO	1.0	1.017		47.44		+146A	+1010A	0.	1.		3.66-2	
+146A	0.	1.		-.0269				PBEAM	1011	2	0.65988	1.	3.834
PBEAM	147	2	1.017	1.	34.25	.001	+147	+1011	NO	1.	0.58224		3.781
+147	NO	1.0	1.620		103.19		+147A	+1011A	0.	1.		.125	
+147A	0.	1.		-.4573				PBEAM	1012	2	0.4852	1.	2.985
PBEAM	148	2	1.500	1.	24.08	.001	+148	+1012	NO	1.	0.3817		3.085
+148	NO	1.0	1.875		39.37		+148A	+1012A	0.	1.		.239	
+148A	0.	1.		-.2222				PBEAM	1013	2	0.3817	1.	4.113
PBEAM	149	2	1.875	1.	39.37	.001	+149	+1013	NO	1.	0.2527		3.779
+149	NO	1.0	2.250		59.52		+149A	+1013A	0.	1.		.407	
+149A	0.	1.		-.1818				PBEAM	1014	2	1.1795	1.	32.608
PBEAM	150	2	1.125	1.	44.13	.001	+150	+1014	NO	1.	1.24325		37.764
+150	NO	1.0	1.538		87.37		+150A	+1014A	0.	1.		-5.26-2	
+150A	0.	1.		-.3099				PBEAM	1015	2	1.24325	1.	35.291
PBEAM	151	2	1.538	1.	86.52	.001	+151	+1015	NO	1.	1.26225		36.787
+151	NO	1.0	1.750		115.17		+151A	+1015A	0.	1.		-1.52-2	
+151A	0.	1.		-.1293				PBEAM	1016	2	1.0098	1.	36.787
PBEAM	152	2	1.750	1.	115.17	.001	+152	+1016	NO	1.	0.897		28.514
+152	NO	1.0	1.750		115.17		+152A	+1016A	0.	1.		.118	
+152A	0.	1.		.0000				PBEAM	1017	2	0.897	1.	28.514
PBEAM	153	2	14.000	1.	129.80	.001	+153	+1017	NO	1.	0.7106		17.378
+153	NO	1.0	14.000		129.80		+153A	+1017A	0.	1.		.232	
+153A	0.	1.		.0000				PBEAM	1018	2	0.88825	1.	17.378
PBEAM	154	2	14.000	1.	79.18	.001	+154	+1018	NO	1.	0.569		7.448
+154	NO	1.0	18.000		130.90		+154A	+1018A	0.	1.		.438	
+154A	0.	1.		-.2500				PBEAM	1020	2	.174168	1.	2.924
PBEAM	160	2	30.000	.001	.001	.001	+160	+1020	NO	1.	.192741		3.774
+160	NO	1.0	30.000				+160A	+1020A	0.	1.		-.101	
+160A	0.	1.		.0000				PBEAM	1022	2	.004037	1.	8.0
PBEAM	161	2	1980.0001.		9999.00	.001	+161	+1022	NO	1.	.004701		3.
+161	NO	1.0	2970.000		9999.00		+161A	+1022A	0.	1.		-.152	
+161A	0.	1.		.0000				PBEAM	1023	2	.192741	1.	3.774
PBEAM	162	2	2970.0001.		9999.00	.001	+162	+1023	NO	1.	.173225		1.931
+162	NO	1.0	1782.000		47.10		+162A	+1023A	0.	1.		.107	
+162A	0.	1.		.0000				PBEAM	1024	2	.173225	1.	1.931
PBEAM	163	2	1.080	1.	121.33	.001	+163	+1024	NO	1.	.137473		.991
+163	NO	1.0	1.080		99.73		+163A	+1024A	0.	1.		.230	
+163A	0.	1.		.0000				PBEAM	1025	2	.137473	1.	.991
PBEAM	164	2	1980.0001.		9999.00	.001	+164	+1025	NO	1.	.085198		4.751
+164	NO	1.0	2970.000		9999.00		+164A	+1025A	0.	1.		.470	
+164A	0.	1.		.0000				PBEAM	1026	2	0.53326	1.	4.915
PBEAM	165	2	2970.0001.		9999.00	.001	+165	+1026	NO	1.	0.56896		4.995
+165	NO	1.0	1980.000		9999.00		+165A	+1026A	0.	1.		-6.48-2	
+165A	0.	1.		.0000				PBEAM	1027	2	0.97536	1.	4.995
PBEAM	166	2	.840	1.	181.16	.001	+166	+1027	NO	1.	.93792		4.858
+166	NO	1.0	.678		115.24		+166A	+1027A	0.	1.		3.91-2	
+166A	0.	1.		.2134				PBEAM	1028	2	0.54712	1.	4.858
PBEAM	167	2	1980.0001.		9999.00	.001	+167	+1028	NO	1.	0.43652		2.292
+167	NO	1.0	1980.000		9999.00		+167A	+1028A	0.	1.		.225	
+167A	0.	1.		.0000				PBEAM	1029	2	0.12472	1.	2.292
PBEAM	168	2	1.400	1.	239.03	.001	+168	+1029	NO	1.	0.07392		.998
+168	NO	1.0	1.100		139.10		+168A	+1029A	0.	1.		.511	
+168A	0.	1.		.2400				PBEAM	1031	2	.602006	1.	12.135
PBEAM	169	2	4.200	1.	20.00	.001	+169	+1031	NO	1.	.638206		13.539
+169	NO	1.0	3.210		20.00		+169A	+1031A	0.	1.		-5.84-2	
+169A	0.	1.		.0000				PBEAM	1033	2	0.0327	1.	5.4
PBEAM	170	2	3.210	1.	20.00	.001	+170	+1033	NO	1.	0.03526		0.529
+170	NO	1.0	3.300		20.00		+170A	+1033A	0.	1.		-7.53-2	
+170A	0.	1.		.0000				PBEAM	1034	2	.461906	1.	13.539
PBEAM	171	2	1980.0001.		9999.00	.001	+171	+1034	NO	1.	.371385		8.407
+171	NO	1.0	1980.000		9999.00		+171A	+1034A	0.	1.		.217	
+171A	0.	1.		.0000				PBEAM	1035	2	0.1134	1.	.241
PBEAM	172	2	1.230	1.	84.87	.001	+172	+1035	NO	1.	0.0864		.140
+172	NO	1.0	1.000		57.12		+172A	+1035A	0.	1.		.270	
+172A	0.	1.		.2063				PBEAM	1036	2	.371385	1.	7.726
PBEAM	173	2	1.125	1.	41.92	.001	+173	+1036	NO	1.	.208421		2.466
+173	NO	1.0	1.188		46.53		+173A	+1036A	0.	1.		.562	
+173A	0.	1.		-.0541				PBEAM	1037	2	0.0864	1.	.140
PBEAM	174	2	.750	1.	12.63	.001	+174	+1037	NO	1.	0.06364		.0759
+174	NO	1.0	1.063		23.78		+174A	+1037A	0.	1.		.303	
+174A	0.	1.		-.3448				PBEAM	1038	2	0.54612	1.	5.551
PBEAM	175	2	1059.3001.		9999.00	.001	+175	+1038	NO	1.	0.58212		5.807
+175	NO	1.0	841.500		9999.00		+175A	+1038A	0.	1.		-6.38-2	
+175A	0.	1.		.0000				PBEAM	1039	2	0.19404	1.	4.814
PBEAM	176	2	75.000	1.	2.98	.001	+176	+1039	NO	1.	0.15936		2.212
+176	NO	1.0	79.000		12.10		+176A	+1039A	0.	1.		.196	
+176A	0.	1.		.0000				PBEAM	1040	2	0.15936	1.	2.212
PBEAM	177	2	79.000	1.	12.10	.001	+177	+1040	NO	1.	0.1296		.140
+177	NO	1.0	82.000		29.71		+177A	+1040A	0.	1.		.206	
+177A	0.	1.		.0000				PBEAM	1041	2	0.216	1.	.233
PBEAM	178	2	82.000	1.	29.71	.001	+178	+1041	NO	1.	0.1411		.0995
+178	NO	1.0	85.000		29.71		+178A	+1041A	0.	1.		.419	
+178A	0.	1.		.0000				PBEAM	1043	2	.1148	1.	.239
PBEAM	179	2	85.000	9999.0	46.06	.001	+179	+1043	NO	1.	.118531		.255
+179	NO	1.0	90.000				+179A	+1043A	0.	1.		-3.20-2	
+179A	0.	1.		.0000				PBEAM	1045	2	0.02716	1.	3.2
PBEAM	180	2	90.000	9999.0	46.06	.001	+180	+1045	NO	1.	0.02891		0.119
+180	NO	1.0	55.800		31.90		+180A	+1045A	0.	1.		-6.24-2	
+180A	0.	1.		.0000				PBEAM	1046	2	.118531	1.	.255
PBEAM	181	2	990.000	1.	9999.00	.001	+181	+1046	NO	1.	.103033		.193
+181	NO	1.0					+181A	+1046A	0.	1.		.140	
+181A	0.	1.						PBEAM	1047	2	0.02568	1.	0.001
PBEAM	182	2	990.000	1.	9999.00	.001	+182	+1047	NO	1.	0.02513		
+182	NO	1.0					+182A	+1047A	0.	1.		2.16-2	
+182A	0.	1.						PBEAM	1048	2	.103033	1.	.193
PBEAM	1001	2	1.34778	1.	14.325		+1001	+1048	NO	1.	.082328		.123
+1001	NO	1.	1.32951		14.209		+1001A	+1048A	0.	1.		.223	
+1001A	0.	1.		1.36-2				PBEAM	1049	2	.082328	1.	.637
PBEAM	1002	2	1.32951	1.	14.209		+1002	+1049	NO	1.	0.05289		.953
+1002	NO	1.	1.23648		13.640		+1002A	+1049A	0.	1.		.435	
+1002A	0.	1.		7.25-2				PBEAM	1050	2	12.9	1.	.952
PBEAM	1003	2	1.23648	1.	13.640		+1003	+1050	NO	1.	2.9		.15
+1003	NO	1.	1.09137		12.836		+1003A	+1050A	0.	1.		1.266	
+1003A	0.	1.		.125				PBEAM	1051	2	0.41616	1.	4.768
PBEAM	1004	2	1.09137	1.	12.836		+1004	+1051	NO	1.	0.39888		4.214
+1004	NO	1.	0.85176		11.727		+1004A	+1051A	0.	1.		4.24-2	
+1004A	0.	1.		.247				PBEAM	1052	2	0.28808	1.	3.968
PBEAM	1005	2	0.85176	1.	10.727		+1005	+1052	NO	1.			
+1005	NO	1.	0.57309		10.782		+1005A						
+1005A	0.	1.		.391			</						



+1052	NO	1.	0.22399	2.323		+1052A				+1099	NO	1.	0.50864	3.405		+1099A	
+1052A	O.	1.	.250							+1099A	O.	1.	.105				
PBEAM 1053	2		0.22399	1.	2.323	+1053				PBEAM 1100	2		0.32368	1.	2.951	+1100	
+1053	NO	1.	0.13195	.877		+1053A				+1100	NO	1.	0.2702		1.360	+1100A	
+1053A	O.	1.	.517							+1100A	O.	1.	.180			+1101	
PBEAM 1054	2		10.15	1.	1.104	+1054				PBEAM 1101	2		0.2895	1.	1.434	+1101	
+1054	NO	1.	2.3	.15		+1054A				+1101	NO	1.	0.237		1.561	+1101A	
+1054A	O.	1.	1.261							+1101A	O.	1.	.199			+1102	
PBEAM 1056	2		0.0772	1.	.112	+1056				PBEAM 1102	2		.803494	1.	19.105	+1102	
+1056	NO	1.	.07868	.116		+1056A				+1102	NO	1.	.756148		18.318	+1102A	
+1056A	O.	1.	-1.90-2							+1102A	O.	1.		6.07-2			
PBEAM 1057	2		0.07868	1.	.116	+1057				PBEAM 1103	2		.868368	1.	3.7	+1103	
+1057	NO	1.	0.06116	.0701		+1057A				+1103	NO	1.	.808308		3.656	+1103A	
+1057A	O.	1.	.251							+1103A	O.	1.	7.16-2			+1104	
PBEAM 1058	2		0.06116	1.	.587	+1058				PBEAM 1104	2		0.56848	1.	7.616	+1104	
+1058	NO	1.	.0332	.173		+1058A				+1104	NO	1.	0.53648		2.977	+1104A	
+1058A	O.	1.	.593							+1104A	O.	1.	5.79-2			+1105	
PBEAM 1059	2		8.3	1.	.173	+1059				PBEAM 1105	2		0.53648	1.	1.985	+1105	
+1059	NO	1.	1.8	.15		+1059A				+1105	NO	1.	0.49888		2.015	+1105A	
+1059A	O.	1.	1.287							+1105A	O.	1.	7.26-2			+1106	
PBEAM 1060	2		0.6004	1.	1.874	+1060				PBEAM 1106	2		0.49888	1.	2.217	+1106	
+1060	NO	1.	0.513	1.073		+1060A				+1106	NO	1.	0.4536		2.014	+1106A	
+1060A	O.	1.	.157							+1106A	O.	1.	9.51-2			+1107	
PBEAM 1061	2		0.513	1.	1.073	+1061				PBEAM 1107	2		0.70875	1.	2.009	+1107	
+1061	NO	1.	.2508	.265		+1061A				+1107	NO	1.	0.664		1.764	+1107A	
+1061A	O.	1.	.687							+1107A	O.	1.	6.52-2			+1108	
PBEAM 1062	2		6.6	1.	.249	+1062				PBEAM 1108	2		0.3984	1.	.670	+1108	
+1062	NO	1.	1.5	.15		+1062A				+1108	NO	1.	0.37695		.600	+1108A	
+1062A	O.	1.	1.259							+1108A	O.	1.	5.53-2			+1109	
PBEAM 1071	2		.563180	1.	30.125	+1071				PBEAM 1109	2		0.37695	1.	.600	+1109	
+1071	NO	1.	.456388	12.840		+1071A				+1109	NO	1.	0.3324		1.367	+1109A	
+1071A	O.	1.	.209							+1109A	O.	1.	.126			+1110	
PBEAM 1072	2		.682631	1.	8.277	+1072				PBEAM 1110	2		0.35456	1.	1.367	+1110	
+1072	NO	1.	.665175	7.859		+1072A				+1110	NO	1.	0.31472		.368	+1110A	
+1072A	O.	1.	2.59-2							+1110A	O.	1.	.119			+1111	
PBEAM 1073	2		.554312	1.	7.859	+1073				PBEAM 1111	2		0.15736	1.	.242	+1111	
+1073	NO	1.	.515704	6.811		+1073A				+1111	NO	1.	0.1264		1.156	+1111A	
+1073A	O.	1.	7.15-2							+1111A	O.	1.	.218			+1112	
PBEAM 1074	2		.58975	1.	14.868	+1074				PBEAM 1112	2		0.1728	1.	.303	+1112	
+1074	NO	1.	.531	6.135		+1074A				+1112	NO	1.	0.16064		.262	+1112A	
+1074A	O.	1.	.105							+1112A	O.	1.	7.29-2			+1113	
PBEAM 1075	2		.675834	1.	32.711	+1075				PBEAM 1113	2		0.16064	1.	.222	+1113	
+1075	NO	1.	.608902	25.555		+1075A				+1113	NO	1.	0.13784		.163	+1113A	
+1075A	O.	1.	.104							+1113A	O.	1.	.153			+1114	
PBEAM 1076	2		.74152	1.	3.66	+1076				PBEAM 1114	2		0.13784	1.	.148	+1114	
+1076	NO	1.	.64649	10.312		+1076A				+1114	NO	1.	0.12232		.117	+1114A	
+1076A	O.	1.	.137							+1114A	O.	1.	.119			+1115	
PBEAM 1077	2		0.59676	1.	12.691	+1077				PBEAM 1115	2		0.12232	1.	.117	+1115	
+1077	NO	1.	0.50976	2.256		+1077A				+1115	NO	1.	0.108		.991	+1115A	
+1077A	O.	1.	.157							+1115A	O.	1.	.124			+1116	
PBEAM 1078	2		.531	1.	6.135	+1078				PBEAM 1116	2		.337714	1.	19.909	+1116	
+1078	NO	1.	.504625	5.541		+1078A				+1116	NO	1.	.312716		19.868	+1116A	
+1078A	O.	1.	5.09-2							+1116A	O.	1.	7.69-2			+1117	
PBEAM 1079	2		0.52481	1.	5.541	+1079				PBEAM 1117	2		0.85918	1.	3.590	+1117	
+1079	NO	1.	0.49517	4.933		+1079A				+1117	NO	1.	0.77384		3.626	+1117A	
+1079A	O.	1.	5.81-2							+1117A	O.	1.	.105			+1118	
PBEAM 1080	2		0.41899	1.	4.933	+1080				PBEAM 1118	2		0.54624	1.	6.20	+1118	
+1080	NO	1.	0.36586	6.161		+1080A				+1118	NO	1.	0.49872		2.937	+1118A	
+1080A	O.	1.	.135							+1118A	O.	1.	9.10-2			+1119	
PBEAM 1081	2		.902630	1.	30.774	+1081				PBEAM 1119	2		0.39482	1.	1.371	+1119	
+1081	NO	1.	.842997	31.687		+1081A				+1119	NO	1.	0.35112		1.197	+1119A	
+1081A	O.	1.	6.83-2							+1119A	O.	1.	.117			+1120	
PBEAM 1082	2		.756112	1.	9.525	+1082				PBEAM 1120	2		0.31416	1.	1.796	+1120	
+1082	NO	1.	.694238	19.190		+1082A				+1120	NO	1.	0.27047		1.622	+1120A	
+1082A	O.	1.	8.53-2							+1120A	O.	1.	.149			+1121	
PBEAM 1083	2		0.90882	1.	14.949	+1083				PBEAM 1121	2		0.36593	1.	.570	+1121	
+1083	NO	1.	0.84618	2.210		+1083A				+1121	NO	1.	0.32453		.448	+1121A	
+1083A	O.	1.	7.14-2							+1121A	O.	1.	.120			+1122	
PBEAM 1084	2		0.9402	1.	2.762	+1084				PBEAM 1122	2		0.23987	1.	.388	+1122	
+1084	NO	1.	0.8128	2.065		+1084A				+1122	NO	1.	0.2193		.324	+1122A	
+1084A	O.	1.	.145							+1122A	O.	1.	8.96-2			+1123	
PBEAM 1085	2		0.48768	1.	2.242	+1085				PBEAM 1123	2		2.193	1.	0.577	+1123	
+1085	NO	1.	0.39912	2.251		+1085A				+1123	NO	1.	1.7255		0.319	+1123A	
+1085A	O.	1.	.200							+1123A	O.	1.	.239			+1124	
PBEAM 1086	2		0.73172	1.	4.425	+1086				PBEAM 1124	2		1.7255	.1	0.319	+1124	
+1086	NO	1.	0.7194	4.277		+1086A				+1124	NO	1.	1.411		0.186	+1124A	
+1086A	O.	1.	1.70-2							+1124A	O.	1.	.201			+1125	
PBEAM 1087	2		0.7194	1.	4.277	+1087				PBEAM 1125	2		1.411	1.	0.186	+1125	
+1087	NO	1.	0.66748	3.682		+1087A				+1125	NO	1.	1.122		0.37	+1125A	
+1087A	O.	1.	7.49-2							+1125A	O.	1.	.228			+1126	
PBEAM 1088	2		0.48544	1.	3.682	+1088				PBEAM 1126	2		0.290	1.	.15	+1126	
+1088	NO	1.	0.448	3.136		+1088A				+1126	NO	1.	0.230			+1126A	
+1088A	O.	1.	8.02-2							+1126A	O.	1.	.231			+1127	
PBEAM 1089	2		0.616	1.	3.136	+1089				PBEAM 1127	2		0.230	1.	.15	+1127	
+1089	NO	1.	0.59752	2.951		+1089A				+1127	NO	1.	0.180			+1127A	
+1089A	O.	1.	3.05-2							+1127A	O.	1.	.244			+1128	
PBEAM 1090	2		0.59752	1.	3.319	+1090				PBEAM 1128	2		0.180	1.	.15	+1128	
+1090	NO	1.	0.56496	2.968		+1090A				+1128	NO	1.	0.150			+1128A	
+1090A	O.	1.	5.60-2							+1128A	O.	1.	.182			+1131	
PBEAM 1091	2		.964044	1.	26.163	+1091				PBEAM 1131	2		24.900	1.	2.334	+1131	
+1091	NO	1.	.900046	33.946		+1091A				+1131	NO	1.0	41.600		4.497	+1131A	
+1091A	O.	1.	6.87-2							+1131A	O.	1.	-5.02			+1132	
PBEAM 1092	2		.80058	1.	8.240	+1092				PBEAM 1132	2		22.300	1.	1.258	+1132	
+1092	NO	1.	.740025	7.040		+1092A				+1132	NO	1.0	43.800		6.091	+1132A	
+1092A	O.	1.	7.86-2							+1132A	O.	1.	.1			+1133	
PBEAM 1093	2		0.9867	1.	3.017	+1093				PBEAM 1133	2		43.800	1.	6.091	+1133	
+1093	NO	1.	0.9295	2.678		+1093A				+1133	NO	1.0	46.400		8.843	+1133A	
+1093A	O.	1.	5.97-2							+1133A	O.	1.	-.058			+1134	
PBEAM 10																	



+1139	NO	1.0	31.800		4.283			+1139A		+1186	NO	1.0	21.000		7.00000		+1186A
+1139A	0.	1.	-.667					+1186A	0.	1.			.0524				
PBEAM	1140	2	14.000	1.	.836			+1140		PBEAM	1187	2	21.000		7.00000	.265	+1187
+1140	NO	1.0	28.200		2.827			+1140A		+1187	NO	1.0	16.200		.95000		+1187A
+1140A	0.	1.								+1187A	0.	1.		.2581			
PBEAM	1141	2	28.200	1.	2.827		.001	+1141		PBEAM	1188	2	16.200	1.	.95000	.265	+1188
+1141	NO	1.0	32.160		4.634			+1141A		+1188	NO	1.0	10.900		.30000		+1188A
+1141A	0.	1.								+1188A	0.	1.		.3911			
PBEAM	1142	2	32.16	100.	7.94		10.	+1142		PBEAM	1189	2	10.900	1.	.30000	.265	+1189
+1142	NO	1.	32.70					+1142A		+1189	NO	1.0	5.690		.04000		+1189A
+1142A	0.	1.	-1.67-2							+1189A	0.	1.		.6281			
PBEAM	1143	2	12.800	1.	.537			+1143		PBEAM	1190	2	3.414	100.	1.1	.001	+1190
+1143	NO	1.0	26.050		1.860			+1143A		+1190	NO	1.	2.802		1.0		+1190A
+1143A	0.	1.								+1190A	0.	1.		.197			
PBEAM	1144	2	11.190	1.	.541			+1144		PBEAM	1191	2	18.680	1.	5.80000	.265	+1191
+1144	NO	1.0	23.000		1.894			+1144A		+1191	NO	1.0	18.680		5.80000		+1191A
+1144A	0.	1.								+1191A	0.	1.		.0000			
PBEAM	1145	2	23.000	1.	1.894		.001	+1145		PBEAM	1192	2	18.680	1.	5.80000	.265	+1192
+1145	NO	1.0	25.560		3.414			+1145A		+1192	NO	1.0	14.740		.28300		+1192A
+1145A	0.	1.								+1192A	0.	1.		.2358			
PBEAM	1146	2	25.56	100.	6.5		10.	+1146		PBEAM	1193	2	14.740	1.	.28300	.265	+1193
+1146	NO	1.	27.16					+1146A		+1193	NO	1.0	9.990		.09600		+1193A
+1146A	0.	1.								+1193A	0.	1.		.3841			
PBEAM	1147	2	9.060	1.	.492			+1147		PBEAM	1194	2	9.990	1.	.09600	.265	+1194
+1147	NO	1.0	19.800		1.700			+1147A		+1194	NO	1.0	5.250		.01400		+1194A
+1147A	0.	1.								+1194A	0.	1.		.6220			
PBEAM	1148	2	7.640	1.	.210			+1148		PBEAM	1195	2	35.960	1.	5.14100	.265	+1195
+1148	NO	1.0	17.500		.929			+1148A		+1195	NO	1.0	33.740		5.13000		+1195A
+1148A	0.	1.								+1195A	0.	1.		.0637			
PBEAM	1149	2	17.500	1.	.929		.001	+1149		PBEAM	1196	2	33.740	1.	5.13000	.265	+1196
+1149	NO	1.0	18.620		1.942			+1149A		+1196	NO	1.0	26.740		.22400		+1196A
+1149A	0.	1.								+1196A	0.	1.		.2315			
PBEAM	1150	2	18.62	100.	4.32		10.	+1150		PBEAM	1197	2	26.740	1.	.22400	.265	+1197
+1150	NO	1.	19.3					+1150A		+1197	NO	1.0	18.100		.07510		+1197A
+1150A	0.	1.								+1197A	0.	1.		.3854			
PBEAM	1151	2	7.100	1.	.042			+1151		PBEAM	1198	2	18.100	1.	.07510	.265	+1198
+1151	NO	1.0	16.900		.269			+1151A		+1198	NO	1.0	9.500		.01143		+1198A
+1151A	0.	1.								+1198A	0.	1.		.6232			
PBEAM	1152	2	22.300	1.	1.150			+1152		PBEAM	1199	2	0.924	100.	0.32	.001	+1199
+1152	NO	1.0	24.900		1.440			+1152A		+1199	NO	1.	0.7535		0.25		+1199A
+1152A	0.	1.								+1199A	0.	1.		.203			
PBEAM	1153	2	20.300	1.	.870			+1153		PBEAM	1200	2	15.070	1.	3.20000	.265	+1200
+1153	NO	1.0	22.300		1.150			+1153A		+1200	NO	1.0	15.070		3.20000		+1200A
+1153A	0.	1.								+1200A	0.	1.		.0000			
PBEAM	1154	2	17.900	1.	.630			+1154		PBEAM	1201	2	15.070	1.	3.20000	.265	+1201
+1154	NO	1.0	20.300		.870			+1154A		+1201	NO	1.0	13.370		.17300		+1201A
+1154A	0.	1.								+1201A	0.	1.		.1195			
PBEAM	1155	2	15.900	1.	.470			+1155		PBEAM	1202	2	13.370	1.	.17300	.265	+1202
+1155	NO	1.0	17.900		.630			+1155A		+1202	NO	1.0	8.120		.05600		+1202A
+1155A	0.	1.								+1202A	0.	1.		.4886			
PBEAM	1156	2	14.000	1.	.340			+1156		PBEAM	1203	2	8.120	1.	.05600	.265	+1203
+1156	NO	1.0	15.900		.470			+1156A		+1203	NO	1.0	4.260		.00880		+1203A
+1156A	0.	1.								+1203A	0.	1.		.6236			
PBEAM	1157	2	12.800	1.	.260			+1157		PBEAM	1204	2	15.940	1.	2.00000	.265	+1204
+1157	NO	1.0	14.000		.340			+1157A		+1204	NO	1.0	13.940		2.00000		+1204A
+1157A	0.	1.								+1204A	0.	1.		.1339			
PBEAM	1158	2	11.190	1.	.280			+1158		PBEAM	1205	2	13.940	1.	2.00000	.265	+1205
+1158	NO	1.0	12.800		.260			+1158A		+1205	NO	1.0	11.130		.10800		+1205A
+1158A	0.	1.								+1205A	0.	1.		.2242			
PBEAM	1159	2	9.060	1.	.260			+1159		PBEAM	1206	2	11.130	1.	.10800	.265	+1206
+1159	NO	1.0	11.190		.280			+1159A		+1206	NO	1.0	7.530		.03700		+1206A
+1159A	0.	1.								+1206A	0.	1.		.3859			
PBEAM	1160	2	7.640	1.	.170			+1160		PBEAM	1207	2	7.530	1.	.03700	.265	+1207
+1160	NO	1.0	9.060		.260			+1160A		+1207	NO	1.0	3.950		.00580		+1207A
+1160A	0.	1.								+1207A	0.	1.		.6237			
PBEAM	1161	2	7.100	1.	.120			+1161		PBEAM	1208	2	12.820	1.	1.20000	.265	+1208
+1161	NO	1.0	7.640		.170			+1161A		+1208	NO	1.0	12.820		1.20000		+1208A
+1161A	0.	1.								+1208A	0.	1.		.0000			
PBEAM	1162	2	43.800	1.	5.189			+1162		PBEAM	1209	2	12.820	1.	1.20000	.265	+1209
+1162	NO	1.0	41.600		5.636			+1162A		+1209	NO	1.0	10.280		.07100		+1209A
+1162A	0.	1.								+1209A	0.	1.		.2199			
PBEAM	1163	2	39.600	1.	4.049			+1163		PBEAM	1210	2	10.280	1.	.07100	.265	+1210
+1163	NO	1.0	43.800		5.170			+1163A		+1210	NO	1.0	6.960		.02500		+1210A
+1163A	0.	1.								+1210A	0.	1.		.3852			
PBEAM	1164	2	35.300	1.	3.053			+1164		PBEAM	1211	2	6.960	1.	.02500	.265	+1211
+1164	NO	1.0	39.600		4.049			+1164A		+1211	NO	1.0	3.640		.00370		+1211A
+1164A	0.	1.								+1211A	0.	1.		.6264			
PBEAM	1165	2	31.800	1.	2.364			+1165		PBEAM	1212	2	0.7055	100.	0.32	.001	+1212
+1165	NO	1.0	35.300		3.040			+1165A		+1212	NO	1.	0.63		0.25		+1212A
+1165A	0.	1.								+1212A	0.	1.		.113			
PBEAM	1166	2	28.200	1.	1.762			+1166		PBEAM	1213	2	12.600	1.	.70000	.265	+1213
+1166	NO	1.0	31.800		2.354			+1166A		+1213	NO	1.0	11.690		.70000		+1213A
+1166A	0.	1.								+1213A	0.	1.		.0749			
PBEAM	1167	2	26.050	1.	1.444			+1167		PBEAM	1214	2	11.690	1.	.70000	.265	+1214
+1167	NO	1.0	28.200		1.754			+1167A		+1214	NO	1.0	9.420		.05530		+1214A
+1167A	0.	1.								+1214A	0.	1.		.2151			
PBEAM	1168	2	23.000	1.	1.274			+1168		PBEAM	1215	2	9.420	1.	.05530	.265	+1215
+1168	NO	1.0	26.050		1.431			+1168A		+1215	NO	1.0	6.360		.01900		+1215A
+1168A	0.	1.								+1215A	0.	1.		.3878			
PBEAM	1169	2	19.800	1.	1.019			+1169		PBEAM	1216	2	6.360	1.	.01900	.265	+1216
+1169	NO	1.0	23.000		1.269			+1169A		+1216	NO	1.0	3.330		.00290		+1216A
+1169A	0.	1.								+1216A	0.	1.		.6254			
PBEAM	1170	2	17.500	1.	.706			+1170		PBEAM	1217	2	11.400	1.	.40000	.265	+1217
+1170	NO	1.0	19.800		1.007			+1170A		+1217	NO	1.0	10.620		.40000		+1217A
+1170A	0.	1.								+1217A	0.	1.		.0708			
PBEAM	1171	2	16.900	1.	.588			+1171		PBEAM	1218	2	10.620	1.	.40000	.265	+1218
+1171	NO	1.0	17.500		.709			+1171A		+1218	NO	1.0	8.570		.01970		+1218A
+1171A	0.	1.								+1218A	0.	1.		.2137			
PBEAM	1181	2	0.341	100.	4.328		.001	+1181		PBEAM	1219	2	8.570	1.	.01970	.265	+1219



+1234	NO	1.0	.253	.93783	
+1234A	0.	1.	-.1127		
PBEAM	1235	2	.125	.55802	.400
+1235	NO	1.0	.136	.65330	
+1235A	0.	1.	-.0779		
PBEAM	1236	2	.115	.40738	.300
+1236	NO	1.0	.125	.48321	
+1236A	0.	1.	-.0837		
PBEAM	1237	2	.175	.28956	.150
+1237	NO	1.0	.192	.34903	
+1237A	0.	1.	-.0922		
PBEAM	1238	2	.096	.20137	.075
+1238	NO	1.0	.105	.24515	
+1238A	0.	1.	-.0959		
PBEAM	1241	2	16.200	.01850	3.000
+1241	NO	1.0	53.180	.26000	
+1241A	0.	1.	-1.0660		
PBEAM	1242	2	14.740	.01400	2.000
+1242	NO	1.0	16.200	.01850	
+1242A	0.	1.	-.0944		
PBEAM	1243	2	13.370	.00940	.900
+1243	NO	1.0	14.740	.01400	
+1243A	0.	1.	-.0975		
PBEAM	1244	2	13.370	.00690	.700
+1244	NO	1.0	13.370	.00940	
+1244A	0.	1.	.0000		
PBEAM	1245	2	11.130	.00450	.400
+1245	NO	1.0	13.370	.00690	
+1245A	0.	1.	-.1829		
PBEAM	1246	2	10.280	.00330	.300
+1246	NO	1.0	11.130	.00450	
+1246A	0.	1.	-.0794		
PBEAM	1247	2	9.420	.00210	.150
+1247	NO	1.0	10.280	.00330	
+1247A	0.	1.	-.0873		
PBEAM	1248	2	8.570	.00150	.075
+1248	NO	1.0	9.420	.00210	
+1248A	0.	1.	-.0945		
PBEAM	1251	2	10.900	.00604	3.000
+1251	NO	1.0	35.740	.08200	
+1251A	0.	1.	-1.0652		
PBEAM	1252	2	9.990	.00460	2.000
+1252	NO	1.0	10.900	.00604	
+1252A	0.	1.	-.0871		
PBEAM	1253	2	9.050	.00315	.900
+1253	NO	1.0	9.990	.00460	
+1253A	0.	1.	-.0987		
PBEAM	1254	2	8.120	.00232	.700
+1254	NO	1.0	9.050	.00315	
+1254A	0.	1.	-.1083		
PBEAM	1255	2	7.530	.00149	.400
+1255	NO	1.0	8.120	.00232	
+1255A	0.	1.	-.0754		
PBEAM	1256	2	6.960	.00112	.300
+1256	NO	1.0	7.530	.00149	
+1256A	0.	1.	-.0787		
PBEAM	1257	2	6.360	.00074	.150
+1257	NO	1.0	6.960	.00112	
+1257A	0.	1.	-.0901		
PBEAM	1258	2	5.750	.00049	.075
+1258	NO	1.0	6.360	.00074	
+1258A	0.	1.	-.1007		
PBEAM	1261	2	5.690	.00089	3.000
+1261	NO	1.0	18.490	.01210	
+1261A	0.	1.	-1.0587		
PBEAM	1262	2	5.250	.00068	2.000
+1262	NO	1.0	5.690	.00089	
+1262A	0.	1.	-.0804		
PBEAM	1263	2	4.750	.00047	.900
+1263	NO	1.0	5.250	.00068	
+1263A	0.	1.	-.1000		
PBEAM	1264	2	4.260	.00035	.700
+1264	NO	1.0	4.750	.00047	
+1264A	0.	1.	-.1088		
PBEAM	1265	2	3.950	.00023	.400
+1265	NO	1.0	4.260	.00035	
+1265A	0.	1.	-.0755		
PBEAM	1266	2	3.640	.00017	.300
+1266	NO	1.0	3.950	.00023	
+1266A	0.	1.	-.0817		
PBEAM	1267	2	3.330	.00011	.150
+1267	NO	1.0	3.640	.00017	
+1267A	0.	1.	-.0890		
PBEAM	1268	2	2.990	.00008	.075
+1268	NO	1.0	3.330	.00011	
+1268A	0.	1.	-.1076		
PBEAM	2001	2	2038.9591	2.060	.001
+2001	NO	1.	3806.7001	19.530	
PBEAM	2002	2	3806.7001	19.530	.001
+2002	NO	1.	5574.4201	37.000	
PBEAM	2003	2	5574.4201	37.000	.001
+2003	NO	1.	3618.9001	18.660	
PBEAM	2004	2	3618.9001	18.660	.001
+2004	NO	1.	1663.3351	.320	
PBEAM	2005	2	1429.5691	1.290	.001
+2005	NO	1.	3214.8001	10.645	
PBEAM	2006	2	3214.8001	10.645	.001
+2006	NO	1.	4999.9951	20.000	
PBEAM	2007	2	4999.9951	20.000	.001
+2007	NO	1.	3331.6651	11.600	
PBEAM	2008	2	3331.6651	11.600	.001
+2008	NO	1.	1663.3351	3.200	
PBEAM	2009	2	1117.8811	.770	.001
+2009	NO	1.	2357.6401	.485	
PBEAM	2010	2	2357.6401	.485	.001
+2010	NO	1.	3597.3991	.200	
PBEAM	2011	2	3597.3991	.200	.001
+2011	NO	1.	2467.5301	.650	
PBEAM	2012	2	2467.5301	.650	.001
+2012	NO	1.	1337.6611	1.100	
PBEAM	2013	2	859.1401	.294	.001
+2013	NO	1.	1864.8001	.247	
PBEAM	2014	2	1864.8001	.247	.001
+2014	NO	1.	2870.5271	.200	

PBEAM	2015	2	2870.5271	.200	.001	+2015
+2015	NO	1.	1965.2331	.470		
PBEAM	2016	2	1965.2331	.470	.001	+2016
+2016	NO	1.	1059.9391	.740		
PBEAM	2017	2	617.4821	.108	.001	+2017
+2017	NO	1.	1398.2001	.104		
PBEAM	2018	2	1398.2001	.104	.001	+2018
+2018	NO	1.	2178.8191	.100		
PBEAM	2019	2	2178.8191	.100	.001	+2019
+2019	NO	1.	1488.0001	.120		
PBEAM	2020	2	1488.0001	.120	.001	+2020
+2020	NO	1.	797.2001	.140		
PBEAM	2021	2	454.8451	.100	.001	+2021
+2021	NO	1.	832.8001	.110		
PBEAM	2022	2	832.8001	.110	.001	+2022
+2022	NO	1.	1210.7891	.120		
PBEAM	2023	2	1210.7891	.120	.001	+2023
+2023	NO	1.	852.6001	.126		
PBEAM	2024	2	852.6001	.126	.001	+2024
+2024	NO	1.	494.5051	.131		
PBEAM	2031	2	203.8961	44.200	.001	+2031
+2031	NO	1.	173.4001	22.970		
PBEAM	2032	2	173.4001	22.970	.001	+2032
+2032	NO	1.	142.9571	1.740		
PBEAM	2033	2	142.9571	1.740	.001	+2033
+2033	NO	1.	127.4001	1.339		
PBEAM	2034	2	127.4001	1.339	.001	+2034
+2034	NO	1.	111.7881	.937		
PBEAM	2035	2	111.7881	.937	.001	+2035
+2035	NO	1.	98.9001	.714		
PBEAM	2036	2	98.9001	.714	.001	+2036
+2036	NO	1.	85.9141	.490		
PBEAM	2037	2	85.9141	.490	.001	+2037
+2037	NO	1.	73.8001	.395		
PBEAM	2038	2	73.8001	.395	.001	+2038
+2038	NO	1.	61.7481	.300		
PBEAM	2039	2	61.7481	.300	.001	+2039
+2039	NO	1.	53.6001	.205		
PBEAM	2040	2	53.6001	.205	.001	+2040
+2040	NO	1.	45.4841	.110		
PBEAM	2041	2	557.4421	61.000	.001	+2041
+2041	NO	1.	528.7001	34.500		
PBEAM	2042	2	528.7001	34.500	.001	+2042
+2042	NO	1.	500.0001	8.000		
PBEAM	2043	2	500.0001	2.100	.001	+2043
+2043	NO	1.	429.9001	1.750		
PBEAM	2044	2	429.9001	1.750	.001	+2044
+2044	NO	1.	359.7401	1.400		
PBEAM	2045	2	359.7401	1.400	.001	+2045
+2045	NO	1.	323.4001	1.300		
PBEAM	2046	2	323.4001	1.300	.001	+2046
+2046	NO	1.	287.0531	1.200		
PBEAM	2047	2	287.0531	1.200	.001	+2047
+2047	NO	1.	252.5001	.860		
PBEAM	2048	2	252.5001	.860	.001	+2048
+2048	NO	1.	217.8821	.520		
PBEAM	2049	2	217.8821	.520	.001	+2049
+2049	NO	1.	169.5001	.323		
PBEAM	2050	2	169.5001	.323	.001	+2050
+2050	NO	1.	121.0791	.125		
PBEAM	2051	2	166.3341	34.600	.001	+2051
+2051	NO	1.	150.0001	18.200		
PBEAM	2052	2	150.0001	18.200	.001	+2052
+2052	NO	1.	133.6001	1.860		
PBEAM	2053	2	133.6001	1.840	.001	+2053
+2053	NO	1.	119.9001	1.430		
PBEAM	2054	2	119.9001	1.430	.001	+2054
+2054	NO	1.	105.9941	1.021		
PBEAM	2055	2	105.9941	.914	.001	+2055
+2055	NO	1.	92.9001	.632		
PBEAM	2056	2	92.9001	.632	.001	+2056
+2056	NO	1.	79.7201	.350		
PBEAM	2057	2	79.7201	.310	.001	+2057
+2057	NO	1.	64.6001	.204		
PBEAM	2058	2	64.6001	.204	.001	+2058
+2058	NO	1.	49.4511	.099		
PBEAM	3026	2	1.896	1000.	.001	+3026P
+3026P	NO	1.	.492	10.		+3026PA
PBEAM	3027	2	0.3	1000.	.001	+3027P
+3027P	NO	1.	0.123	10.		+3027PA
PBEAM	3028	2	22.	1000.	.001	+3028P
+3028P	NO	1.	41.	10.		+3028PA
PBEAM	3029	2	22.	1000.	.001	+3029P
+3029P	NO	1.	41.	1000.	.001	+3029PA
PBEAM	3030	2	41.	1000.	.001	+3030P
+3030P	NO	1.	41.	1000.	.001	+3030PA
PBEAM	3031	2	41.	1000.	.001	+3031P
+3031P	NO	1.	41.	1000.	.001	+3031PA
PBEAM	3032	2	41.	1000.	.001	+3032P
+3032P	NO	1.	41.	1000.	.001	+3032PA
PBEAM	5002	2	736.000	606.050	.640	+5002
+5002	NO	1.0	896.000	655.500		+5002A
PBEAM	5003	2	4.140	6240.0003625.000	5250.	+5003
+5003	NO	1.0	8000.0004172.000			+5003A
PBEAM	5004	2	4.140	8000.0004172.000	5250.	+5004
+5004	NO	1.0	8000.0004245.000			+5004A
PBEAM	5005	2	4.140	8000.0004245.000	5250.	+5005
+5005	NO	1.0	8000.0004263.000			+5005A
PBEAM	5006	2	4.140	8000.0004263.000	5250.	+5006
+5006	NO	1.0	8000.0004263.000			+5006A
PBEAM	5007	2	4.140	8000.0004263.000	5250.	+5007
+5007	NO	1.0	8000.0004263.000			+5007A
PBEAM	5008	2	4.140	8000.0004263.000	5250.</	



PSHEAR	202	1	.1570	
PSHEAR	203	1	.1347	
PSHEAR	204	1	.01775	
PSHEAR	642	2	.0382	
PSHEAR	646	2	.0382	
PSHEAR	650	2	.0382	
PSHEAR	651	1	.028	
PSHEAR	652	1	.042	
PSHEAR	653	1	.042	
PSHEAR	654	1	.04225	
PSHEAR	655	1	.042	
PSHEAR	656	1	.0425	
PSHEAR	657	1	.04275	
PSHEAR	658	1	.08583	
PSHEAR	659	1	.090	
PSHEAR	660	1	.0635	
PSHELL	601	601	.240	
PSHELL	602	601	.296	
PSHELL	603	601	.368	
PSHELL	604	601	.378	
PSHELL	605	601	.274	
PSHELL	606	606	.247	
PSHELL	607	606	.252	
PSHELL	608	606	.341	
PSHELL	609	606	.438	
PSHELL	610	606	.410	
PSHELL	611	606	.279	
PSHELL	612	5	.252	
PSHELL	613	5	.323	
PSHELL	614	5	.384	
PSHELL	615	5	.313	
PSHELL	616	5	.234	
PSHELL	617	5	.271	
PSHELL	618	5	.275	
PSHELL	619	5	.292	
PSHELL	620	5	.271	
PSHELL	621	5	.210	
PSHELL	622	5	.267	
PSHELL	623	5	.271	
PSHELL	624	5	.253	
PSHELL	625	5	.194	
PSHELL	626	5	.255	
PSHELL	627	5	.245	
PSHELL	628	5	.245	
PSHELL	629	5	.195	
PSHELL	630	5	.187	
PSHELL	631	5	.187	
PSHELL	632	5	.226	
PSHELL	633	5	.226	
PSHELL	634	5	.191	
PSHELL	635	5	.191	
PSHELL	636	2	.214	
PSHELL	637	2	.213	
PSHELL	638	2	.214	
PSHELL	639	2	.210	
PSHELL	640	2	.195	
PSHELL	641	2	.189	
PSHELL	643	2	.205	
PSHELL	644	2	.205	
PSHELL	645	2	.200	
PSHELL	647	2	.400	
PSHELL	648	2	.400	
PSHELL	649	2	.400	
PSHELL	661	1	.219	
PSHELL	662	1	.169	
PSHELL	663	1	.116	
PSHELL	664	1	.207	
PSHELL	665	1	.158	
PSHELL	666	1	.104	
PSHELL	667	1	.190	
PSHELL	668	1	.1454	
PSHELL	669	1	.097	
PSHELL	670	1	.173	
PSHELL	671	1	.133	
PSHELL	672	1	.089	
PSHELL	673	1	.156	
PSHELL	674	1	.123	
PSHELL	675	1	.083	
PSHELL	676	1	.148	
PSHELL	677	1	.115	
PSHELL	678	1	.078	
PSHELL	679	1	.137	
PSHELL	680	1	.107	
PSHELL	681	1	.073	
PSHELL	682	1	.127	
PSHELL	683	1	.100	
PSHELL	684	1	.068	
PSHELL	701	701	.175	
PSHELL	702	702	.121	
PSHELL	703	703	.093	
PSHELL	704	704	.085	
PSHELL	705	705	.074	
PSHELL	706	706	.230	
PSHELL	707	707	.132	
PSHELL	708	708	.097	
PSHELL	709	709	.085	
PSHELL	710	710	.072	
RBAR	23	283	.407	123456
RBAR	24	281	.409	123456
RBAR	91	31	1031	123456 123
RBAR	92	31	2031	123456 123
RBAR	93	34	1034	123456 123
RBAR	94	34	2034	123456 123
RBAR	95	37	1037	123456 123
RBAR	96	37	2037	123456 123
RBAR	97	40	1040	123456 123
RBAR	98	40	2040	123456 123
RBAR	99	45	1045	123456 123
RBAR	100	45	2045	123456 123
RBAR	101	48	1048	123456 123
RBAR	102	48	2048	123456 123
RBAR	103	54	1054	123456 123
RBAR	104	54	2054	123456 123
RBAR	105	57	1057	123456 123

RBAR	106	57	2057	123456 123
RBAR	107	66	1066	123456 123
RBAR	108	66	2066	123456 123
RBAR	109	69	1069	123456 123
RBAR	110	69	2069	123456 123
RBAR	111	79	1079	123456 123
RBAR	112	79	2079	123456 123
RBAR	113	82	1082	123456 123
RBAR	114	82	2082	123456 123
RBAR	115	94	1094	123456 123
RBAR	116	94	2094	123456 123
RBAR	117	114	1114	123456 123
RBAR	118	114	2114	123456 123
RBAR	119	121	1121	123456 123
RBAR	120	121	2121	123456 123
RBAR	121	34	35	123456 123
RBAR	122	40	41	123456 123
RBAR	123	48	49	123456 123
RBAR	124	57	58	123456 123
RBAR	125	69	70	123456 123
RBAR	126	82	83	123456 123
RBAR	127	115	116	123456 123
RBAR	128	33	31	123456 123
RBAR	129	39	37	123456 123
RBAR	130	47	45	123456 123
RBAR	131	56	54	123456 123
RBAR	132	68	66	123456 123
RBAR	133	81	121	123456 123
RBAR	215	275	1275	123456 123
RBAR	216	275	2275	123456 123
RBAR	217	276	1276	123456 123
RBAR	218	276	2276	123456 123
RBAR	219	280	1280	123456 123
RBAR	220	280	2280	123456 123
RBAR	221	290	1290	123456 123
RBAR	222	290	2290	123456 123
RBAR	223	292	1292	123456 123
RBAR	224	292	2292	123456 123
RBAR	225	293	1293	123456 123
RBAR	226	293	2293	123456 123
RBAR	227	464	1464	123456 123
RBAR	228	464	2464	123456 123
RBAR	229	465	1465	123456 123
RBAR	230	465	2465	123456 123
RBAR	231	466	1466	123456 123
RBAR	232	466	2466	123456 123
RBAR	233	467	1467	123456 123
RBAR	234	467	2467	123456 123
RBAR	235	293	294	123456 123
RBAR	236	290	291	123456 123
RBAR	237	276	277	123456 123
RBAR	238	298	195	123456 12456
RBAR	239	284	196	123456 12456
RBAR	1311	19	1019	123456 123
RBAR	1312	19	2019	123456 123
RBAR	1313	20	1020	123456 123
RBAR	1314	20	2020	123456 123
RBAR	1315	21	1021	123456 123
RBAR	1316	21	2021	123456 123
RBAR	1317	22	1022	123456 123
RBAR	1318	22	2022	123456 123
RBAR	1319	23	1023	123456 123
RBAR	1320	23	2023	123456 123
RBAR	1321	24	1024	123456 123
RBAR	1322	24	2024	123456 123
RBAR	1323	25	1025	123456 123
RBAR	1324	25	2025	123456 123
RBAR	1325	26	1026	123456 123
RBAR	1326	26	2026	123456 123
RBAR	1327	27	1027	123456 123
RBAR	1328	27	2027	123456 123
RBAR	1329	29	1029	123456 123
RBAR	1330	29	2029	123456 123
RBAR	1331	30	1030	123456 123
RBAR	1332	30	2030	123456 123
RBAR	1333	32	1032	123456 123
RBAR	1334	32	2032	123456 123
RBAR	1335	33	1033	123456 123
RBAR	1336	33	2033	123456 123
RBAR	1337	38	1038	123456 123
RBAR	1338	38	2038	123456 123
RBAR	1339	39	1039	123456 123
RBAR	1340	39	2039	123456 123
RBAR	1341	44	1044	123456 123
RBAR	1342	44	2044	123456 123
RBAR	1343	46	1046	123456 123
RBAR	1344	46	2046	123456 123
RBAR	1345	47	1047	123456 123
RBAR	1346	47	2047	123456 123
RBAR	1347	51	1051	123456 123
RBAR	1348	51	2051	123456 123
RBAR	1349	52	1052	123456 123
RBAR	1350	52	2052	123456 123
RBAR	1351	53	1053	123456 123
RBAR	1352	53	2053	123456 123
RBAR	1353	55	1055	123456 123
RBAR	1354	55	2055	123456 123
RBAR	1355	56	1056	123456 123
RBAR	1356	56	2056	123456 123
RBAR	1357	60	1060	123456 123
RBAR	1358	60	2060	123456 123
RBAR	1359	61	1061	123456 123
RBAR	1360	61	2061	123456 123
RBAR	1361	62	1062	123456 123
RBAR	1362	62	2062	123456 123
RBAR	1363	63	1063	123456 123
RBAR	1364	63	2063	123456 123
RBAR	1365	64	1064	123456 123
RBAR	1366	64	2064	123456 123
RBAR	1367	65	1065	123456 123
RBAR	1368	65	2065	123456 123
RBAR	1369	67	1067	123456 123
RBAR	1370	67	2067	123456 123
RBAR	1371	68	1068	123456 123



RBAR	1372	68	2068	123456	123
RBAR	1373	72	1072	123456	123
RBAR	1374	72	2072	123456	123
RBAR	1375	73	1073	123456	123
RBAR	1376	73	2073	123456	123
RBAR	1377	74	1074	123456	123
RBAR	1378	74	2074	123456	123
RBAR	1379	75	1075	123456	123
RBAR	1380	75	2075	123456	123
RBAR	1381	76	1076	123456	123
RBAR	1382	76	2076	123456	123
RBAR	1383	77	1077	123456	123
RBAR	1384	77	2077	123456	123
RBAR	1385	78	1078	123456	123
RBAR	1386	78	2078	123456	123
RBAR	1387	80	1080	123456	123
RBAR	1388	80	2080	123456	123
RBAR	1389	81	1081	123456	123
RBAR	1390	81	2081	123456	123
RBAR	1391	85	1085	123456	123
RBAR	1392	85	2085	123456	123
RBAR	1393	86	1086	123456	123
RBAR	1394	86	2086	123456	123
RBAR	1395	87	1087	123456	123
RBAR	1396	87	2087	123456	123
RBAR	1397	88	1088	123456	123
RBAR	1398	88	2088	123456	123
RBAR	1407	143	1143	123456	123
RBAR	1408	143	2143	123456	123
RBAR	1409	181	1181	123456	123
RBAR	1410	181	2181	123456	123
RBAR	1411	182	1182	123456	123
RBAR	1412	182	2182	123456	123
RBAR	1413	183	1183	123456	123
RBAR	1414	183	2183	123456	123
RBAR	1415	184	1184	123456	123
RBAR	1416	184	2184	123456	123
RBAR	1417	185	1185	123456	123
RBAR	1418	185	2185	123456	123
RBAR	1419	186	1186	123456	123
RBAR	1420	186	2186	123456	123
RBAR	1421	187	1187	123456	123
RBAR	1422	187	2187	123456	123
RBAR	1423	188	1188	123456	123
RBAR	1424	188	2188	123456	123
RBAR	1425	189	1189	123456	123
RBAR	1426	189	2189	123456	123
RBAR	1427	190	1190	123456	123
RBAR	1428	190	2190	123456	123
RBAR	1429	191	1191	123456	123
RBAR	1430	191	2191	123456	123
RBAR	1431	192	1192	123456	123
RBAR	1432	192	2192	123456	123
RBAR	1433	193	1193	123456	123
RBAR	1434	193	2193	123456	123
RBAR	1435	242	1242	123456	123
RBAR	1436	242	2242	123456	123
RBAR	1437	243	1243	123456	123
RBAR	1438	243	2243	123456	123
RBAR	1439	244	1244	123456	123
RBAR	1440	244	2244	123456	123
RBAR	1441	245	1245	123456	123
RBAR	1442	245	2245	123456	123
RBAR	1451	1	1001	123456	123
RBAR	1452	1	2001	123456	123
RBAR	1453	2	1002	123456	123
RBAR	1454	2	2002	123456	123
RBAR	1455	3	1003	123456	123
RBAR	1456	3	2003	123456	123
RBAR	1457	4	1004	123456	123
RBAR	1458	4	2004	123456	123
RBAR	1459	5	1005	123456	123
RBAR	1460	5	2005	123456	123
RBAR	1461	6	1006	123456	123
RBAR	1462	6	2006	123456	123
RBAR	1463	7	1007	123456	123
RBAR	1464	7	2007	123456	123
RBAR	1465	8	1008	123456	123
RBAR	1466	8	2008	123456	123
RBAR	1467	10	1010	123456	123
RBAR	1468	10	2010	123456	123
RBAR	1469	12	1012	123456	123
RBAR	1470	12	2012	123456	123
RBAR	1471	14	1014	123456	123
RBAR	1472	14	2014	123456	123
RBAR	1473	16	1016	123456	123
RBAR	1474	16	2016	123456	123
RBAR	1475	18	1018	123456	123
RBAR	1476	18	2018	123456	123
RBAR	1477	173	1173	123456	123
RBAR	1478	173	2173	123456	123
RBAR	1479	174	1174	123456	123
RBAR	1480	174	2174	123456	123
RBAR	1481	175	1175	123456	123
RBAR	1482	175	2175	123456	123
RBAR	1483	176	1176	123456	123
RBAR	1484	176	2176	123456	123
RBAR	1485	177	1177	123456	123
RBAR	1486	177	2177	123456	123
RBAR	1487	178	1178	123456	123
RBAR	1488	178	2178	123456	123
RBAR	1489	179	1179	123456	123
RBAR	1490	179	2179	123456	123
RBAR	1491	180	1180	123456	123
RBAR	1492	180	2180	123456	123
RBAR	1493	194	1194	123456	123
RBAR	1494	194	2194	123456	123
RBAR	1501	96	1096	123456	123
RBAR	1502	96	2096	123456	123
RBAR	1503	97	1097	123456	123
RBAR	1504	97	2097	123456	123
RBAR	1505	98	1098	123456	123
RBAR	1506	98	2098	123456	123
RBAR	1507	99	1099	123456	123

RBAR	1508	99	2099	123456	123
RBAR	1509	100	1100	123456	123
RBAR	1510	100	2100	123456	123
RBAR	1511	101	1101	123456	123
RBAR	1512	101	2101	123456	123
RBAR	1513	102	1102	123456	123
RBAR	1514	102	2102	123456	123
RBAR	1515	103	1103	123456	123
RBAR	1516	103	2103	123456	123
RBAR	1517	104	1104	123456	123
RBAR	1518	104	2104	123456	123
RBAR	1519	105	1105	123456	123
RBAR	1520	105	2105	123456	123
RBAR	1521	106	1106	123456	123
RBAR	1522	106	2106	123456	123
RBAR	1523	107	1107	123456	123
RBAR	1524	107	2107	123456	123
RBAR	1525	108	1108	123456	123
RBAR	1526	108	2108	123456	123
RBAR	1527	109	1109	123456	123
RBAR	1528	109	2109	123456	123
RBAR	1529	110	1110	123456	123
RBAR	1530	110	2110	123456	123
RBAR	1531	111	1111	123456	123
RBAR	1532	111	2111	123456	123
RBAR	1533	112	1112	123456	123
RBAR	1534	112	2112	123456	123
RBAR	1535	113	1113	123456	123
RBAR	1536	113	2113	123456	123
RBAR	1537	125	1125	123456	123
RBAR	1538	125	2125	123456	123
RBAR	1539	126	1126	123456	123
RBAR	1540	126	2126	123456	123
RBAR	1541	127	1127	123456	123
RBAR	1542	127	2127	123456	123
RBAR	1543	128	1128	123456	123
RBAR	1544	128	2128	123456	123
RBAR	1545	129	1129	123456	123
RBAR	1546	129	2129	123456	123
RBAR	1547	130	1130	123456	123
RBAR	1548	130	2130	123456	123
RBAR	1549	131	1131	123456	123
RBAR	1550	131	2131	123456	123
RBAR	1551	132	1132	123456	123
RBAR	1552	132	2132	123456	123
RBAR	1553	133	1133	123456	123
RBAR	1554	133	2133	123456	123
RBAR	1555	134	1134	123456	123
RBAR	1556	134	2134	123456	123
RBAR	1557	135	1135	123456	123
RBAR	1558	135	2135	123456	123
RBAR	1559	136	1136	123456	123
RBAR	1560	136	2136	123456	123
RBAR	1561	137	1137	123456	123
RBAR	1562	137	2137	123456	123
RBAR	1563	138	1138	123456	123
RBAR	1564	138	2138	123456	123
RBAR	1565	139	1139	123456	123
RBAR	1566	139	2139	123456	123
RBAR	1567	140	1140	123456	123
RBAR	1568	140	2140	123456	123
RBAR	1569	141	1141	123456	123
RBAR	1570	141	2141	123456	123
RBAR	1571	142	1142	123456	123
RBAR	1572	142	2142	123456	123
RBAR	2235	501	1501	123456	123
RBAR	2236	501	2501	123456	123
RBAR	2237	502	1502	123456	123
RBAR	2238	502	2502	123456	123
RBAR	2239	503	1503	123456	123
RBAR	2240	503	2503	123456	123
RBAR	2241	504	1504	123456	123
RBAR	2242	504	2504	123456	123
RBAR	2243	505	1505	123456	123
RBAR	2244	505	2505	123456	123
RBAR	2245	506	1506	123456	123
RBAR	2246	506	2506	123456	123
RBAR	2247	507	1507	123456	123
RBAR	2248	507	2507	123456	123
RBAR	2249	508	1508	123456	123
RBAR	2250	508	2508	123456	123
RBAR	2251	509	1509	123456	123
RBAR	2252	509	2509	123456	123
RBAR	2253	510	1510	123456	123
RBAR	2254	510	2510	123456	123
RBAR	2255	511	1511	123456	123
RBAR	2256	511	2511	123456	123
RBAR	2257	512	1512	123456	123
RBAR	2258	512	2512	123456	123
RBAR	2259	513	1513	123456	123
RBAR	2260	513	2513	123456	123
RBAR	2261	514	1514	123456	123
RBAR	2262	514	2514	123456	123
RBAR	2263	515	1515	123456	123
RBAR	2264	515	2515	123456	123
RBAR	2265	516	1516	123456	123
RBAR	2266	516	2516	123456	123
RBAR	2267	517	1517	123456	123
RBAR	2268	517	2517	123456	123
RBAR	2269	518	1518	123456	123
RBAR	2270	518	2518	123456	123
RBAR	2271	519	1519	123456	123
RBAR	2272	519	2519	123456	123
RBAR	2273	520			



RBAR	2284	525	2525	123456		123	
RBAR	2285	526	1526	123456		123	
RBAR	2286	526	2526	123456		123	
RBAR	3042	72	3016	123456			
RBAR	3043	3016	143	123456		123	
SPC1	3	1	359	360	361	362	367
SPC1	3	1	368	369	370	371	381
SPC1	3	1	383	384	385	386	389
SPC1	3	1	390	391	392	393	408
SPC1	3	156	36	42	50	437	431
SPC1	3	156	71	84	298	286	117
SPC1	3	156	163	164	153	154	285
SPC1	3	156	267	268	458	459	156
SPC1	3	156	283	284	282	281	
SPC1	4	234	36	42	50	437	431
SPC1	4	234	71	84	298	286	117
SPC1	4	234	163	164	153	154	285
SPC1	4	234	267	268	458	459	156
SPC1	4	234	283	284	282	281	405
SPC1	5	4	3022				
SPC1	5	456	251	256	261	262	266
SPC1	5	456	1001	1002	1003	1004	1005
SPC1	5	456	1007	1008	1010	1012	1014
SPC1	5	456	1018	1173	1174	1175	1176
SPC1	5	456	1019	THRU	1027		1177
SPC1	5	456	1029	1030	1032	1033	1038
SPC1	5	456	1031	1034	1037	1040	1045
SPC1	5	456	1044	1046	1047	1051	1052
SPC1	5	456	1054	1057	1066	1069	1079
SPC1	5	456	1055	1056	1060	1061	1062
SPC1	5	456	1064	1065	1067	1068	1072
SPC1	5	456	1074	1075	1076	1077	1078
SPC1	5	456	1079	1114	1275	1276	1280
SPC1	5	456	1081	1085	1086	1087	1088
SPC1	5	456	1094	1114	1121		
SPC1	5	456	1096	1097	1098	1099	1100
SPC1	5	456	1102	1103	1104	1105	1106
SPC1	5	456	1108	1109	1110	1111	1112
SPC1	5	456	1125	1126	1127		
SPC1	5	456	1128	1129	1130	1131	1132
SPC1	5	456	1134	1135	1136	1137	1138
SPC1	5	456	1140	1141	1142		1139

SPC1	5	456	1143				
SPC1	5	456	1178	1179	1180	1194	
SPC1	5	456	1181	THRU	1193		
SPC1	5	456	1233				
SPC1	5	456	1242	1243	1244	1245	
SPC1	5	456	1251	THRU	1266		
SPC1	5	456	1292	1293	1464	1465	1466
SPC1	5	456	1501	THRU	1526		1467
SPC1	5	456	2001	2002	2003	2004	2005
SPC1	5	456	2007	2008	2010	2012	2014
SPC1	5	456	2018	2173	2174	2175	2176
SPC1	5	456	2019	THRU	2027		2177
SPC1	5	456	2029	2030	2032	2033	2038
SPC1	5	456	2031	2034	2037	2040	2045
SPC1	5	456	2044	2046	2047	2051	2052
SPC1	5	456	2054	2057	2066	2069	2079
SPC1	5	456	2055	2056	2060	2061	2062
SPC1	5	456	2064	2065	2067	2068	2072
SPC1	5	456	2074	2075	2076	2077	2078
SPC1	5	456	2079	2114	2275	2276	2280
SPC1	5	456	2081	2085	2086	2087	2088
SPC1	5	456	2094	2114	2121		
SPC1	5	456	2096	2097	2098	2099	2100
SPC1	5	456	2102	2103	2104	2105	2106
SPC1	5	456	2109	2109	2110	2111	2112
SPC1	5	456	2125	2126	2127		2113
SPC1	5	456	2128	2129	2130	2131	2132
SPC1	5	456	2134	2135	2136	2137	2138
SPC1	5	456	2140	2141	2142		2139
SPC1	5	456	2143				
SPC1	5	456	2178	2179	2180	2194	
SPC1	5	456	2181	THRU	2193		
SPC1	5	456	2242	2243	2244	2245	
SPC1	5	456	2251	THRU	2266		
SPC1	5	456	2292	2293	2464	2465	2466
SPC1	5	456	2501	THRU	2526		2467
SPC1	5	123456	701	702	703		
SPCADD	1	3	5				
SPCADD	2	4	5				
SUPORT	42	156					
ENDDATA							



## Appendix B.

### Structural Finite Element Data for Typical LCO Case

ID LMTAS BLOCK 40 F-16 FLUTTER FEM TYPICAL LCO CASE

SOL 103

TIME 20

\$

CEND

\$

TITLE=F-16 1/2 AIRPLANE FINITE ELEMENT MODEL FOR FLUTTER ANALYSIS

SUBT1=ANTI-SYMMETRIC CENTERLINE BOUNDARY CONDITIONS // FULL XWING FUEL

LABEL=CONFIG 5 = MA41

DISP=ALL

ECHO=SOFT

\$ DMIG VERTICAL TAIL STIFFNESS MATRIX

K2GG=VTAIL

\$ EIGENVALUE EXTRACTION

METHOD=1

\$ SYMMETRIC B.C. / SPC=2 FOR ANTISYMMETRIC

SPC=2

\$

\$ SET 203022=GRIDS USED IN FLUTTER ANALYSIS.

\$ ADD GRIDS 801 THROUGH 814 FOR DYNAMIC RESPONSE.

\$

SET 203022= 2, 3, 4, 5, 6,

9, 11, 13, 15, 17,

19, 20, 21, 26, 29,

33, 39, 44, 47, 51,

52, 53, 56, 60, 61,

62, 64, 65, 68, 72,

73, 74, 75, 77, 78,

81, 85, 86, 87, 89,

90, 91, 92, 93, 95,

102, 103, 104, 105, 106,

107, 108, 109, 110, 111,

112, 113, 122, 123, 124,

128, 129, 130, 131, 132,

133, 3004, 3006, 3009

\$ AIM-9/16S200 OR 16S200 ON TIP

\$

\$ GENERATE BUT DO NOT PRINT-

\$ EIGENVECTORS FOR FLUTTER ANALYSIS

\$

\$ PRINT-

\$ A-SET EIGENVECTORS FOR INSPECTION

\$

OUTPUT(PLOT)

CSCALE=1.8

PAPER SIZE=26. BY 20.

\$

\$ SET 10=ELEMENTS USED IN MODE PLOTS

\$

\$ FUSELAGE CENTERLINE

SET 10= 1 THRU 26,

\$

\$ WING BOX

1001 THRU 1005,

1007,1010 THRU 1013,

1020,1023 THRU 1025,

1031,1034,1036,1043,1045,

1046,1048 THRU 1054,

1056 THRU 1062,

1071 THRU 1074,

1078,1079,1080,

1086 THRU 1090,

1099,1100,1101,

1075,1076,1077,

1081 THRU 1085,

1091 THRU 1097,

1102 THRU 1111,

1116 THRU 1125,

1126,1127,1128,

\$ LEADING EDGE FLAP / 1258 ACTUATOR

1131 THRU 1134,

1136,1137,1138,

1140,1141,1142,

1144,1145,1146,

1148 THRU 1151,

1152 THRU 1171,

\$

\$ FLAPERON

1181 THRU 1185,

1187 THRU 1189,

1190 THRU 1194,

1196 THRU 1203,

1205 THRU 1207,

1209 THRU 1220,

1231 THRU 1238,

1251 THRU 1258,

1261 THRU 1268,

\$ HORIZONTAL TAIL

2001 THRU 2058,

\$ VERTICAL TAIL

2401 THRU 2460,

\$ 16S200 // STATION 1,9

3003 THRU 3009,

\$ AIM-9L // STATION 1,9

3014,3015

\$

\$ MAXIMUM DEFORMATION 35.

AXES MX,MY,Z

VIEW 60.0,30.,0.

FIND SCALE ORIGIN 10 SET 10

PLOT MODAL DEFO 0 SET 10 ORIGIN 10

\$

\$

BEGIN BULK

ASET 3500 123456

ASET 3501 123456

ASET1	1	163	153	154	155	156	71	286
ASET1	1	267						
ASET1	1	284	281					
ASET1	1	367	408	368	359	384		
ASET1	1	373	364	381	383			
ASET1	1	386	391	371	362	387	392	393
ASET1	1	389	369	360	385	390	370	361
ASET1	1	410						
ASET1	1	3050	3053	3057				
ASET1	1	3207	3210	3211	3213			
ASET1	2	3049	3054					
ASET1	2	3206	3212					
ASET1	3	6	17	5	15	4	13	3
ASET1	3	11	2	9				
ASET1	3	19	72	20	60	73	21	61
ASET1	3	39	47	56	68	81		
ASET1	3	74	51	62	75	26	52	64
ASET1	3	77	29	44	53	65	78	33
ASET1	3	85	86	87	88			
ASET1	3	90	103	109	89	102	108	
ASET1	3	95	107	113	93	106	112	124
ASET1	3	130	133	92	105	111	123	129
ASET1	3	132	91	104	110	122	128	131
ASET1	3	233						
ASET1	3	251	THRU	266				
ASET1	3	3017	3019	3022				
ASET1	3	3046	3050	3053	3057			
ASET1	3	3204	3210	3211	3213			
ASET1	4	3204	3211					
ASET1	5	153	154	155	156	71	286	284
ASET1	5	410						
ASET1	5	459						
ASET1	5	3211						
ASET1	6	437	281	410				
ASET1	6	458						
ASET1	6	3207	3211					
ASET1	3456	3018						
ASET1	123456	3060						
CBAR	27	27	284	410	1.	1.	0.	
CBAR	2401	2401	407	367	0.	1.	1.	
CBAR	2402	2402	367	368	0.	1.	1.	
CBAR	2403	2403	368	369	0.	1.	1.	
CBAR	2404	2404	369	370	0.	1.	1.	
CBAR	2405	2405	370	371	0.	1.	1.	
CBAR	2406	2406	371	372	0.	1.	1.	
CBAR	2407	2407	372	373	0.	1.	1.	
CBAR	2408	2408	357	358	0.	1.	1.	
CBAR	2409	2409	358	359	0.	1.	1.	
CBAR	2410	2410	359	360	0.	1.	1.	
CBAR	2411	2411	360	361	0.	1.	1.	
CBAR	2412	2412	361	362	0.	1.	1.	
CBAR	2413	2413	362	363	0.	1.	1.	
CBAR	2414	2414	363	364	0.	1.	1.	
CBAR	2415	2415	409	375	0.	1.	1.	
CBAR	2416	2416	375	376	0.	1.	1.	
CBAR	2417	2417	376	377	0.	1.	1.	
CBAR	2418	2418	377	378	0.	1.	1.	
CBAR	2419	2419	378	379	0.	1.	1.	
CBAR	2420	2420	379	380	0.	1.	1.	
CBAR	2421	2421	380	381	0.	1.	1.	
CBAR	2422	2422	382	383	0.	1.	1.	
CBAR	2423	2423	384	385	0.	1.	1.	
CBAR	2424	2424	385	386	0.	1.	1.	
CBAR	2425	2425	386	387	0.	1.	1.	
CBAR	2426	2426	387	388	0.	1.	1.	
CBAR	2427	2427	389	390	0.	1.	1.	
CBAR	2428	2428	390	391	0.	1.	1.	
CBAR	2429	2429	391	392	0.	1.	1.	
CBAR	2430	2430	392	393	0.	1.	1.	
CBAR	2431	2431	407	357	0.	1.	1.	
CBAR	2432	2432	357	409	0.	1.	1.	
CBAR	2433	2433	367	358	0.	1.	1.	
CBAR	2434	2434	358	375	0.	1.	1.	
CBAR	2435	2435	375	384	0.	1.	1.	
CBAR	2436	2436	375	406	0.	1.	1.	
CBAR	2437	2437	406	408	0.	1.	1.	
CBAR	2438	2438	368	359	0.	1.	1.	
CBAR	2439	2439	359	376	0.	1.	1.	
CBAR	2440	2440	376	384	0.	1.	1.	
CBAR	2441	2441	369	360	0.	1.	1.	
CBAR	2442	2442	360	377	0.	1.	1.	
CBAR	2443	2443	377	385	0.	1.	1.	
CBAR	2444	2444	370	361	0.	1.	1.	
CBAR	2445	2445	361	378	0.	1.	1.	
CBAR	2446	2446	378	386	0.	1.	1.	
CBAR	2447	2447	371	362	0.	1.	1.	
CBAR	2448	2448	362	379	0.	1.	1.	
CBAR	2449	2449	372	363	0.	1.	1.	
CBAR	2450	2450	363	380	0.	1.	1.	
CBAR	2451	2451	380	382	0.	1.	1.	
CBAR	2452	2452	380	388	0.	1.	1.	
CBAR	2453	2453	373	364	0.	1.	1.	
CBAR	2454	2454	364	381	0.	1.	1.	
CBAR	2455	2455	381	383	0.	1.	1.	
CBAR	2456	2456	384	389	0.	1.	1.	
CBAR	2457	2457	385	390	0.	1.	1.	
CBAR	2458	2458	386	391	0.	1.	1.	
CBAR	2459	2459	387	392	0.	1.	1.	
CBAR	2460	2460	388	393	0.	1.	1.	
CBAR	3502	3502	3500	52	1.	1.	0.	
CBAR	3503	3502	3501	52	1.	1.	0.	
CBAR	1	1	163	164	1.	0.	0.	
CBAR	2	2	164	153	1.	0.	0.	



CBEAM	3	3	267	154	1.	0.	0.
CBEAM	4	4	154	155	1.	0.	0.
CBEAM	5	5	155	156	1.	0.	0.
CBEAM	6	6	268	36	1.	0.	0.
CBEAM	7	7	36	42	1.	0.	0.
CBEAM	8	8	42	50	1.	0.	0.
CBEAM	9	9	50	437	1.	0.	0.
CBEAM	10	10	437	59	1.	0.	0.
CBEAM	11	11	59	431	1.	0.	0.
CBEAM	12	12	431	71	1.	0.	0.
CBEAM	13	13	71	84	1.	0.	0.
CBEAM	14	14	84	298	1.	0.	0.
CBEAM	15	15	298	286	1.	0.	0.
CBEAM	16	16	286	117	1.	0.	0.
CBEAM	17	17	117	285	1.	1.	0.
CBEAM	18	18	285	283	1.	1.	0.
CBEAM	19	19	283	284	1.	1.	0.
CBEAM	20	20	284	282	1.	1.	0.
CBEAM	21	21	282	281	1.	1.	0.
CBEAM	22	22	281	405	1.	0.	0.
CBEAM	31	31	36	35	1.	1.	0.
CBEAM	32	32	42	41	1.	1.	0.
CBEAM	33	33	50	49	1.	1.	0.
CBEAM	34	34	59	58	1.	1.	0.
CBEAM	35	35	71	70	1.	1.	0.
CBEAM	36	36	84	83	1.	1.	0.
CBEAM	37	37	117	116	1.	1.	0.
CBEAM	38	38	34	31	1.	1.	0.
CBEAM	39	39	40	37	1.	1.	0.
CBEAM	40	40	48	45	1.	1.	0.
CBEAM	41	41	57	54	1.	1.	0.
CBEAM	42	42	69	66	1.	1.	0.
CBEAM	43	43	82	94	1.	1.	0.
CBEAM	44	44	94	119	1.	1.	0.
CBEAM	45	45	118	121	1.	1.	0.
CBEAM	46	46	115	79	1.	1.	0.
CBEAM	47	47	79	120	1.	1.	0.
CBEAM	48	48	120	114	1.	1.	0.
CBEAM	49	49	31	37	1.	1.	0.
+49BM	46						
CBEAM	50	50	37	45	1.	1.	0.
CBEAM	51	51	45	54	1.	1.	0.
CBEAM	52	52	54	66	1.	1.	0.
CBEAM	53	53	66	121	1.	1.	0.
+53BM	456						
CBEAM	54	54	121	114	1.	1.	0.
+54BM	456						
CBEAM	55	55	118	119	1.	1.	0.
CBEAM	56	56	119	120	1.	1.	0.
CBEAM	57	57	94	79	1.	1.	0.
CBEAM	141	141	467	274	1.	1.	0.
CBEAM	142	142	274	465	1.	1.	0.
CBEAM	143	143	465	275	1.	1.	0.
CBEAM	144	144	275	278	1.	1.	0.
CBEAM	145	145	278	280	1.	1.	0.
CBEAM	146	146	280	292	1.	1.	0.
CBEAM	147	147	292	114	1.	1.	0.
+147BM	456						
CBEAM	148	148	466	273	1.	1.	0.
CBEAM	149	149	273	464	1.	1.	0.
CBEAM	150	150	464	276	1.	1.	0.
CBEAM	151	151	276	279	1.	1.	0.
CBEAM	152	152	279	290	1.	1.	0.
CBEAM	153	153	290	293	1.	1.	0.
CBEAM	154	154	293	79	1.	1.	0.
+154BM	456						
CBEAM	160	160	295	300	1.	1.	0.
CBEAM	161	161	117	300	1.	1.	0.
CBEAM	162	162	300	79	1.	1.	0.
CBEAM	163	163	79	114	1.	1.	0.
CBEAM	164	164	283	295	1.	1.	0.
CBEAM	165	165	295	294	1.	1.	0.
CBEAM	166	166	293	292	1.	1.	0.
CBEAM	167	167	282	291	1.	1.	0.
CBEAM	168	168	290	280	1.	1.	0.
CBEAM	169	169	279	271	1.	1.	0.
+169BM	456						
CBEAM	170	170	271	278	1.	1.	0.
+170BM	56						
CBEAM	171	171	281	277	1.	1.	0.
CBEAM	172	172	276	275	1.	1.	0.
CBEAM	173	173	464	465	1.	1.	0.
CBEAM	174	174	466	467	1.	1.	0.
CBEAM	175	175	271	272	1.	1.	0.
+175BM	46						
CBEAM	176	176	273	241	1.	1.	0.
CBEAM	177	177	241	299	1.	1.	0.
CBEAM	178	178	299	272	1.	1.	0.
CBEAM	179	179	272	274	1.	1.	0.
CBEAM	180	180	274	233	1.	1.	0.
CBEAM	181	181	195	296	1.	1.	0.
+181BM	56						
CBEAM	182	182	296	196	1.	1.	0.
+182BM	56						
CBEAM	1001	1001	33	39	1.	0.	0.
CBEAM	1002	1002	39	47	1.	0.	0.
CBEAM	1003	1003	47	56	1.	0.	0.
CBEAM	1004	1004	56	68	1.	0.	0.
CBEAM	1005	1005	68	81	1.	0.	0.
CBEAM	1007	1007	32	38	1.	0.	0.
CBEAM	1009	1009	30	38	1.	0.	0.
CBEAM	1010	1010	38	46	1.	0.	0.
CBEAM	1011	1011	46	55	1.	0.	0.
CBEAM	1012	1012	55	67	1.	0.	0.
CBEAM	1013	1013	67	80	1.	0.	0.
CBEAM	1014	1014	181	182	1.	0.	0.
CBEAM	1015	1015	182	183	1.	0.	0.
CBEAM	1016	1016	183	184	1.	0.	0.
CBEAM	1017	1017	184	185	1.	0.	0.
CBEAM	1018	1018	185	186	1.	0.	0.
CBEAM	1020	1020	29	44	1.	0.	0.
CBEAM	1022	1022	27	44	1.	0.	0.
CBEAM	1023	1023	44	53	1.	0.	0.
CBEAM	1024	1024	53	65	1.	0.	0.

CBEAM	1025	1025	65	78	1.	0.	0.
CBEAM	1026	1026	187	188	1.	0.	0.
+1026BM	56						
CBEAM	1027	1027	188	189	1.	0.	0.
CBEAM	1028	1028	189	190	1.	0.	0.
CBEAM	1029	1029	190	191	1.	0.	0.
CBEAM	1031	1031	26	52	1.	0.	0.
CBEAM	1033	1033	25	52	1.	0.	0.
CBEAM	1034	1034	52	64	1.	0.	0.
CBEAM	1035	1035	64	245	1.	0.	0.
CBEAM	1036	1036	64	77	1.	0.	0.
CBEAM	1037	1037	245	77	1.	0.	0.
CBEAM	1038	1038	192	193	1.	0.	0.
CBEAM	1039	1039	193	63	1.	0.	0.
CBEAM	1040	1040	63	245	1.	0.	0.
CBEAM	1041	1041	245	76	1.	0.	0.
CBEAM	1043	1043	24	51	1.	0.	0.
CBEAM	1045	1045	23	51	1.	0.	0.
CBEAM	1046	1046	51	62	1.	0.	0.
CBEAM	1047	1047	22	62	1.	0.	0.
CBEAM	1048	1048	62	244	1.	0.	0.
CBEAM	1049	1049	244	75	1.	0.	0.
CBEAM	1050	1050	75	88	1.	0.	0.
CBEAM	1051	1051	21	61	1.	0.	0.
CBEAM	1052	1052	61	243	1.	0.	0.
CBEAM	1053	1053	243	74	1.	0.	0.
+1053BM	56						
CBEAM	1054	1054	74	87	1.	0.	0.
CBEAM	1056	1056	20	60	1.	0.	0.
CBEAM	1057	1057	60	242	1.	0.	0.
CBEAM	1058	1058	242	73	1.	0.	0.
+1058BM	56						
CBEAM	1059	1059	73	86	1.	0.	0.
CBEAM	1060	1060	19	143	1.	0.	0.
CBEAM	1061	1061	143	72	1.	0.	0.
CBEAM	1062	1062	72	85	1.	0.	0.
CBEAM	1071	1071	33	32	0.	1.	0.
CBEAM	1072	1072	32	30	0.	1.	0.
CBEAM	1073	1073	30	181	0.	1.	0.
CBEAM	1074	1074	181	29	0.	1.	0.
CBEAM	1075	1075	39	38	0.	1.	0.
CBEAM	1076	1076	38	182	0.	1.	0.
CBEAM	1077	1077	182	29	0.	1.	0.
CBEAM	1078	1078	29	27	0.	1.	0.
CBEAM	1079	1079	27	187	0.	1.	0.
CBEAM	1080	1080	187	26	0.	1.	0.
CBEAM	1081	1081	47	46	0.	1.	0.
CBEAM	1082	1082	46	183	0.	1.	0.
CBEAM	1083	1083	183	44	0.	1.	0.
CBEAM	1084	1084	44	188	0.	1.	0.
CBEAM	1085	1085	188	26	0.	1.	0.
CBEAM	1086	1086	26	25	0.	1.	0.
CBEAM	1087	1087	25	192	0.	1.	0.
CBEAM	1088	1088	192	24	0.	1.	0.
CBEAM	1089	1089	24	23	0.	1.	0.
CBEAM	1090	1090	23	22	0.	1.	0.
CBEAM	1091	1091	56	55	0.	1.	0.
CBEAM	1092	1092	55	184	0.	1.	0.
CBEAM	1093	1093	184	53	0.	1.	0.
CBEAM	1094	1094	53	189	0.	1.	0.
CBEAM	1095	1095	189	52	0.	1.	0.
CBEAM	1096	1096	52	193	0.	1.	0.
CBEAM	1097	1097	193	51	0.	1.	0.
CBEAM	1098	1098	51	22	0.	1.	0.
+1098BM	56						
CBEAM	1099	1099	22	21	0.	1.	0.
CBEAM	1100	1100	21	20	0.	1.	0.
CBEAM	1101	1101	20	19	0.	1.	0.
CBEAM	1102	1102	68	67	0.	1.	0.
CBEAM	1103	1103	67	185	0.	1.	0.
CBEAM	1104	1104	185	65	0.	1.	0.
CBEAM	1105	1105	65	190	0.	1.	0.
CBEAM	1106	1106	190	64	0.	1.	0.
CBEAM	1107	1107	64	63	0.	1.	0.
CBEAM	1108	1108	63	62	0.	1.	0.
CBEAM	1109	1109	62	61	0.	1.	0.
CBEAM	1110	1110	61	60	0.	1.	0.
CBEAM	1111	1111	60	19	0.	1.	0.
CBEAM	1112	1112	245	244	0.	1.	0.
CBEAM	1113	1113	244	243	0.	1.	0.
CBEAM	1114	1114	243	242	0.	1.	0.
CBEAM	1115	1115	242	143	0.	1.	0.
CBEAM	1116	1116	81	80	0.	1.	0.
CBEAM	1117	1117	80	186	0.	1.	0.
CBEAM	1118	1118	186	78	0.	1.	0.
CBEAM	1119	1119	78	191	0.	1.	0.
CBEAM	1120	1120	191	77	0.	1.	0.
CBEAM	1121	1121	77	76	0.	1.	0.
CBEAM	1122	1122	76	75	0.	1.	0.
CBEAM	1123	1123	75	74	0.		



+BM1146 5							
CBEAM	1147	1147	173	177	1.	0.	0.
CBEAM	1148	1148	2	194	1.	0.	0.
CBEAM	1149	1149	194	9	1.	0.	0.
CBEAM	1150	1150	9	20	1.	0.	0.
+BM1150 5							
CBEAM	1151	1151	1	8	1.	0.	0.
CBEAM	1152	1152	6	7	1.	0.	0.
CBEAM	1153	1153	176	6	1.	0.	0.
CBEAM	1154	1154	5	176	1.	0.	0.
CBEAM	1155	1155	175	5	1.	0.	0.
CBEAM	1156	1156	4	175	1.	0.	0.
CBEAM	1157	1157	174	4	1.	0.	0.
CBEAM	1158	1158	3	174	1.	0.	0.
CBEAM	1159	1159	173	3	1.	0.	0.
CBEAM	1160	1160	2	173	1.	0.	0.
CBEAM	1161	1161	1	2	1.	0.	0.
CBEAM	1162	1162	16	18	1.	0.	0.
CBEAM	1163	1163	180	16	1.	0.	0.
CBEAM	1164	1164	14	180	1.	0.	0.
CBEAM	1165	1165	179	14	1.	0.	0.
CBEAM	1166	1166	12	179	1.	0.	0.
CBEAM	1167	1167	178	12	1.	0.	0.
CBEAM	1168	1168	10	178	1.	0.	0.
CBEAM	1169	1169	177	10	1.	0.	0.
CBEAM	1170	1170	194	177	1.	0.	0.
CBEAM	1171	1171	8	194	1.	0.	0.
CBEAM	1181	1181	81	95	1.	0.	0.
+BM1181 456							
CBEAM	1182	1182	95	142	1.	0.	0.
CBEAM	1183	1183	142	101	1.	0.	0.
CBEAM	1184	1184	101	107	1.	0.	0.
CBEAM	1185	1185	107	113	1.	0.	0.
CBEAM	1186	1186	93	141	1.	0.	0.
CBEAM	1187	1187	141	100	1.	0.	0.
CBEAM	1188	1188	100	106	1.	0.	0.
CBEAM	1189	1189	106	112	1.	0.	0.
CBEAM	1190	1190	186	124	1.	0.	0.
+BM1190 456							
CBEAM	1191	1191	124	140	1.	0.	0.
CBEAM	1192	1192	140	127	1.	0.	0.
CBEAM	1193	1193	127	130	1.	0.	0.
CBEAM	1194	1194	130	133	1.	0.	0.
CBEAM	1195	1195	92	139	1.	0.	0.
CBEAM	1196	1196	139	99	1.	0.	0.
CBEAM	1197	1197	99	105	1.	0.	0.
CBEAM	1198	1198	105	111	1.	0.	0.
CBEAM	1199	1199	191	123	1.	0.	0.
+BM1199 456							
CBEAM	1200	1200	123	138	1.	0.	0.
CBEAM	1201	1201	138	126	1.	0.	0.
CBEAM	1202	1202	126	129	1.	0.	0.
CBEAM	1203	1203	129	132	1.	0.	0.
CBEAM	1204	1204	91	137	1.	0.	0.
CBEAM	1205	1205	137	98	1.	0.	0.
CBEAM	1206	1206	98	104	1.	0.	0.
CBEAM	1207	1207	104	110	1.	0.	0.
CBEAM	1208	1208	122	136	1.	0.	0.
CBEAM	1209	1209	136	125	1.	0.	0.
CBEAM	1210	1210	125	128	1.	0.	0.
CBEAM	1211	1211	128	131	1.	0.	0.
CBEAM	1212	1212	76	90	1.	0.	0.
+BM1212 456							
CBEAM	1213	1213	90	135	1.	0.	0.
CBEAM	1214	1214	135	97	1.	0.	0.
CBEAM	1215	1215	97	103	1.	0.	0.
CBEAM	1216	1216	103	109	1.	0.	0.
CBEAM	1217	1217	89	134	1.	0.	0.
CBEAM	1218	1218	134	96	1.	0.	0.
CBEAM	1219	1219	96	102	1.	0.	0.
CBEAM	1220	1220	102	108	1.	0.	0.
CBEAM	1231	1231	141	142	1.	0.	0.
CBEAM	1232	1232	140	141	1.	0.	0.
CBEAM	1233	1233	139	140	1.	0.	0.
CBEAM	1234	1234	138	139	1.	0.	0.
CBEAM	1235	1235	137	138	1.	0.	0.
CBEAM	1236	1236	136	137	1.	0.	0.
CBEAM	1237	1237	135	136	1.	0.	0.
CBEAM	1238	1238	134	135	1.	0.	0.
CBEAM	1241	1241	100	101	1.	0.	0.
CBEAM	1242	1242	127	100	1.	0.	0.
CBEAM	1243	1243	99	127	1.	0.	0.
CBEAM	1244	1244	126	99	1.	0.	0.
CBEAM	1245	1245	98	126	1.	0.	0.
CBEAM	1246	1246	125	98	1.	0.	0.
CBEAM	1247	1247	97	125	1.	0.	0.
CBEAM	1248	1248	96	97	1.	0.	0.
CBEAM	1251	1251	106	107	1.	0.	0.
CBEAM	1252	1252	130	106	1.	0.	0.
CBEAM	1253	1253	105	130	1.	0.	0.
CBEAM	1254	1254	129	105	1.	0.	0.
CBEAM	1255	1255	104	129	1.	0.	0.
CBEAM	1256	1256	128	104	1.	0.	0.
CBEAM	1257	1257	103	128	1.	0.	0.
CBEAM	1258	1258	102	103	1.	0.	0.
CBEAM	1261	1261	112	113	1.	0.	0.
CBEAM	1262	1262	133	112	1.	0.	0.
CBEAM	1263	1263	111	133	1.	0.	0.
CBEAM	1264	1264	132	111	1.	0.	0.
CBEAM	1265	1265	110	132	1.	0.	0.
CBEAM	1266	1266	131	110	1.	0.	0.
CBEAM	1267	1267	109	131	1.	0.	0.
CBEAM	1268	1268	108	109	1.	0.	0.
CBEAM	2001	2001	251	506	1.	1.	0.
+BM2001 456							
CBEAM	2002	2002	506	233	1.	1.	0.
CBEAM	2003	2003	233	517	1.	1.	0.
CBEAM	2004	2004	517	262	1.	1.	0.
+BM2004 456							
CBEAM	2005	2005	252	507	1.	1.	0.
+BM2005 456							
CBEAM	2006	2006	507	257	1.	1.	0.
CBEAM	2007	2007	257	518	1.	1.	0.
CBEAM	2008	2008	518	262	1.	1.	0.

+BM1150

+BM1181

+BM1190

+BM1199

+BM1212

+BM2001

+BM2004

+BM2005

+BM2008

+BM2008		456								
CBEAM	2009	2009	253	508	1.	1.	0.			+BM2009
+BM2009		456								
CBEAM	2010	2010	508	258	1.	1.	0.			
CBEAM	2011	2011	258	519	1.	1.	0.			
CBEAM	2012	2012	519	263	1.	1.	0.			+BM2012
+BM2012		456								
CBEAM	2013	2013	254	509	1.	1.	0.			+BM2013
+BM2013		456								
CBEAM	2014	2014	509	259	1.	1.	0.			
CBEAM	2015	2015	259	520	1.	1.	0.			
CBEAM	2016	2016	520	264	1.	1.	0.			+BM2016
+BM2016		456								
CBEAM	2017	2017	255	510	1.	1.	0.			+BM2017
+BM2017		456								
CBEAM	2018	2018	510	260	1.	1.	0.			
CBEAM	2019	2019	260	521	1.	1.	0.			
CBEAM	2020	2020	521	265	1.	1.	0.			+BM2020
+BM2020		456								
CBEAM	2021	2021	256	511	1.	1.	0.			+BM2021
+BM2021		456								
CBEAM	2022	2022	511	261	1.	1.	0.			+BM2022
+BM2022		456								
CBEAM	2023	2023	261	522	1.	1.	0.			+BM2023
+BM2023		456								
CBEAM	2024	2024	522	266	1.	1.	0.			+BM2024
+BM2024		456								
CBEAM	2031	2031	251	501	1.	1.	0.			+BM2031
+BM2031		456								
CBEAM	2032	2032	501	252	1.	1.	0.			
CBEAM	2033	2033	252	502	1.	1.	0.			
CBEAM	2034	2034	502	253	1.	1.	0.			
CBEAM	2035	2035	253	503	1.	1.	0.			
CBEAM	2036	2036	503	254	1.	1.	0.			
CBEAM	2037	2037	254	504	1.	1.	0.			
CBEAM	2038	2038	504	255	1.	1.	0.			
CBEAM	2039	2039	255	505	1.	1.	0.			
CBEAM	2040	2040	505	256	1.	1.	0.			+BM2040
+BM2040		456								
CBEAM	2041	2041	233	512	1.	1.	0.			
CBEAM	2042	2042	512	257	1.	1.	0.			
CBEAM	2043	2043	257	513	1.	1.	0.			
CBEAM	2044	2044	513	258	1.	1.	0.			
CBEAM	2045	2045	258	514	1.	1.	0.			
CBEAM	2046	2046	514	259	1.	1.	0.			
CBEAM	2047	2047	259	515	1.	1.	0.			
CBEAM	2048	2048	515	260	1.	1.	0.			
CBEAM	2049	2049	260	516	1.	1.	0.			
CBEAM	2050	2050	516	261	1.	1.	0.			+BM2050
+BM2050		456								
CBEAM	2051	2051	262	523	1.	1.	0.			+BM2051
+BM2051		456								
CBEAM	2052	2052	523	263	1.	1.	0.			
CBEAM	2053	2053	263	524	1.	1.	0.			
CBEAM	2054	2054	524	264	1.	1.	0.			
CBEAM	2055	2055	264	525	1.	1.	0.			
CBEAM	2056	2056	525	265	1.	1.	0.			
CBEAM	2057	2057	265	526	1.	1.	0.			
CBEAM	2058	2058	526	266	1.	1.	0.			+BM2058
+BM2058		456								
CBEAM	3026	3026	19	3020	0.	1.	0.			
CBEAM	3027	3027	3016	3021	0.	1.	0.			
CBEAM	3028	3028	3017	3018	1.	0.	0.			
CBEAM	3029	3029	3018	3019	1.	0.	0.			
CBEAM	3030	3030	3019	3020	1.	0.	0.			
CBEAM	3031	3031	3020	3021	1.	0.	0.			
CBEAM	3032	3032	3021	3022	1.	0.	0.			
+3032		5								+3032
CBEAM	3081	3081	21	3046	0.	0.	1.			+3081
+3081		56								
CBEAM	3082	3082	3046	61	0.	0.	1.			+3082
+3082		56								
CBEAM	3083	3083	3046	3049	0.	1.	0.			+3083
+3083		6								
CBEAM	3084	3083	3049	3054	0.	1.	0.			
CBEAM	3085	3085	3053	3054	0.	0.	1.			+3085
+3085		56								
CBEAM	3086	3085	3054	3055	0.	0.	1.			+3086
+3086		56								
CBEAM	3087	3087	3047	3053	0.	1.	0.			+3087
+3087		6								
CBEAM	3088	3088	3047	3048	0.	0.	1.			
CBEAM	3089	3089	3048	3055	0.	1.	0.			
CBEAM	3090	3090	3050	3051	0.	0.	1.			+3090
+3090		5								
CBEAM	3091	3091	3051	3053	0.	0.	1.			
CBEAM	3092	3092	3053	3055	0.	0.	1.			
CBEAM	3093	3093	3055	3057	0.	0.	1.			+3093
+3093		5								
CBEAM	3094	3094	3050	3053	0.	0.	1.			+3094
+3094		56								
CBEAM	3095	3095	3053	3055	0.	0.	1.			
CBEAM	3096	3096	3055	3057	0.	0.	1.			+3096
+3096		56								
CBEAM	3097	3097	3050	3059	0.	1.	0.			+3097
+3097		46								
CBEAM	3098	3098	3051	3061	0.	1.	0.			+3098
+3098		246								
CBEAM	3099	3099	3057	3062	0.	1.	0.			+3099
+3099		246								
CBEAM	3100	3100	3058	3059	0.	0.	1.			
CBEAM	3101	3100	3059	3060	0.	0.	1.			
CBEAM	3102	3100	3060	3061	0.	0.	1.			
CBEAM	3103	3100	3061	3062	0.	0.	1.			
CBEAM	3391	3391	29	3196	0.	0.	1.			+3391
+3391		456								
CBEAM	3392	3391	3196	182	0.	0.	1.			+3392
+3392		456								
CBEAM	3393	3391	182	3197	0.	0.	1.			+3393
+3393		456								
CBEAM	3394	3391	3197	38	0.	0.	1.			+3394
+3394		456								
CBEAM	3395	3391	44	3198	0.	0.	1.			+3395
+3395		456								



CBEAM	3396	3391	3198	183	0.	0.	1.	+3396
+3396	456							
CBEAM	3397	3391	183	3199	0.	0.	1.	+3397
+3397	456							
CBEAM	3398	3391	3199	46	0.	0.	1.	+3398
+3398	456							
CBEAM	3399	3391	3198	3200	0.	0.	1.	
CBEAM	3400	3391	3200	3196	0.	0.	1.	
CBEAM	3401	3391	3199	3202	0.	0.	1.	
CBEAM	3402	3391	3202	3197	0.	0.	1.	
CBEAM	3403	3391	3200	3201	0.	0.	1.	+3403
+3403	5							
CBEAM	3404	3391	3201	3202	0.	0.	1.	+3404
+3404	5							
CBEAM	3405	3405	3203	3204	0.	0.	1.	
CBEAM	3406	3405	3204	3205	0.	0.	1.	
CBEAM	3407	3407	3204	3206	0.	1.	0.	+3407
+3407	6							
CBEAM	3408	3407	3206	3207	0.	1.	0.	
CBEAM	3409	3409	3207	3208	0.	0.	1.	
CBEAM	3410	3409	3209	3212	0.	1.	0.	
CBEAM	3411	3405	3210	3211	0.	0.	1.	
CBEAM	3412	3409	3211	3212	0.	0.	1.	
CBEAM	3413	3405	3212	3213	0.	0.	1.	
CBEAM	5002	5002	153	267	1.	0.	0.	
CBEAM	5051	5051	156	458	1.	0.	0.	
CBEAM	5052	5052	458	459	1.	0.	0.	
CBEAM	5053	5053	459	268	1.	0.	0.	
CELAS2	61	36.6E6	34	5	35	5		
CELAS2	62	71.0E6	40	5	41	5		
CELAS2	63	94.1E6	48	5	49	5		
CELAS2	64	132.4E6	57	5	58	5		
CELAS2	65	110.0E6	69	5	70	5		
CELAS2	66	51.7E6	82	5	83	5		
CELAS2	67	5.0E6	115	5	116	5		
CELAS2	191	11.25E6	277	5	276	5		
CELAS2	192	22.0E6	291	5	290	5		
CELAS2	193	9.68E6	294	5	293	5		
CELAS2	194	156610.	298	3	195	3		
CELAS2	195	67829.	284	3	196	3		
CELAS2	1172	5650000.	17	4	30	4		
CELAS2	1173	5590000.	15	4	27	4		
CELAS2	1174	1600000.	13	4	25	4		
CELAS2	1175	2030000.	11	4	23	4		
CELAS2	1221	3307000.	142	4	141	4		
CELAS2	1222	268300.	141	4	140	4		
CELAS2	1223	137300.	140	4	139	4		
CELAS2	1224	105200.	139	4	138	4		
CELAS2	1225	85600.	138	4	137	4		
CELAS2	1226	69900.	137	4	136	4		
CELAS2	1227	57700.	136	4	135	4		
CELAS2	1228	40000.	135	4	134	4		
CELAS2	1229	6229750.	142	4	119	4		
CELAS2	3104	193.E6	3046	4	3054	4		
CELAS2	3414	1515.E5	3204	4	3207	4		
CELAS2	3415	1724.E5	3212	4	3208	4		
CELAS2	3416	580.4E5	3204	6	3207	6		
CELAS2	3417	2652.5E5	3208	6	3209	6		
CELAS2	3418	732.68E5	3208	5	3209	5		
CONM1	301	19	0					+301
+301	9.565							
CONM1	302	72	0					+302
+302	6.770							
CONM1	303	20	0					+303
+303	7.972							
CONM1	304	60	0					+304
+304	10.110							
CONM1	305	73	0					+305
+305	7.755							
CONM1	306	21	0					+306
+306	13.712							
CONM1	307	61	0					+307
+307	20.285							
CONM1	308	74	0					+308
+308	9.982							
CONM1	309	51	0					+309
+309	32.156							
CONM1	310	62	0					+310
+310	25.281							
CONM1	311	75	0					+311
+311	14.285							
CONM1	312	26	0					+312
+312	42.942							
CONM1	313	52	0					+313
+313	57.288							
CONM1	314	64	0					+314
+314	46.648							
CONM1	315	77	0					+315
+315	20.983							
CONM1	316	29	0					+316
+316	60.677							
CONM1	317	44	0					+317
+317	80.964							
CONM1	318	53	0					+318
+318	74.861							
CONM1	319	65	0					+319
+319	56.266							
CONM1	320	78	0					+320
+320	28.341							
CONM1	321	33	0					+321
+321	37.854							
CONM1	322	39	0					+322
+322	99.621							
CONM1	323	47	0					+323
+323	105.244							
CONM1	324	56	0					+324
+324	95.811							
CONM1	325	68	0					+325
+325	83.620							
CONM1	326	81	0					+326
+326	33.148							
CONM1	341	85	0					+341
+341	.6							
CONM1	342	86	0					+342

+342	1.6							
CONM1	343	87	0					+343
+343	1.8							
CONM1	344	88	0					+344
+344	1.							
CONM1	345	6	0					+345
+345	12.03							
CONM1	346	17	0					+346
+346	57.78							
CONM1	347	5	0					+347
+347	10.08							
CONM1	348	15	0					+348
+348	42.72							
CONM1	349	4	0					+349
+349	6.92							
CONM1	350	13	0					+350
+350	27.67							
CONM1	351	3	0					+351
+351	5.17							
CONM1	352	11	0					+352
+352	27.65							
CONM1	353	2	0					+353
+353	4.08							
CONM1	354	9	0					+354
+354	3.71							
CONM1	355	95	0					+355
+355	9.133							
CONM1	356	107	0					+356
+356	6.765							
CONM1	357	113	0					+357
+357	.022							
CONM1	358	93	0					+358
+358	10.32							
CONM1	359	106	0					+359
+359	10.12							
CONM1	360	112	0					+360
+360	.149							
CONM1	361	124	0					+361
+361	5.816							
CONM1	362	130	0					+362
+362	7.986							
CONM1	363	133	0					+363
+363	.998							
CONM1	364	92	0					+364
+364	4.56							
CONM1	365	105	0					+365
+365	6.797							
CONM1	366	111	0					+366
+366	.952							
CONM1	367	123	0					+367
+367	3.296							
CONM1	368	129	0					+368
+368	4.727							
CONM1	369	132	0					+369
+369	.647							
CONM1	370	91	0					+370
+370	2.069							
CONM1	371	104	0					+371
+371	3.014							
CONM1	372	110	0					+372
+372	.477							
CONM1	373	122	0					+373
+373	1.784							
CONM1	374	128	0					+374
+374	2.632							
CONM1	375	131	0					+375
+375	.435							
CONM1	376	90	0					+376
+376	1.644							
CONM1	377	103	0					+377
+377	2.354							
CONM1	378	109	0					+378
+378	.272							
CONM1	379	89	0					+379
+379	.651							
CONM1	380	102	0					+380
+380	1.075							
CONM1	381	108	0					+381
+381	.284							
CONM1	391	163	0					+391
+391	314.21							
CONM1	392	153	0					+392
+392	463.77							
CONM1	393	154	0					+393
+393	870.68							
CONM1	394	155	0					+394
+394	1299.38							
CONM1	395	156	0					+395
+395	1545.78							
CONM1	396	42	0					+396
+396	1799.25							
CONM1	397	71	0					+397
+397	1412.77							
CONM1	398	286	0					+398
+398	893.77							
CONM1	399	284	0					+399
+399	335.19							
CONM1	400	281	0	</				







CQUAD4	669	669	1130	1133	1111	1105
CQUAD4	670	670	1139	1099	1126	1138
CQUAD4	671	671	1099	1105	1129	1126
CQUAD4	672	672	1105	1111	1132	1129
CQUAD4	673	673	1138	1126	1098	1137
CQUAD4	674	674	1126	1129	1104	1098
CQUAD4	675	675	1129	1132	1110	1104
CQUAD4	676	676	1137	1098	1125	1136
CQUAD4	677	677	1098	1104	1128	1125
CQUAD4	678	678	1104	1110	1131	1128
CQUAD4	679	679	1136	1125	1097	1135
CQUAD4	680	680	1125	1128	1103	1097
CQUAD4	681	681	1128	1131	1109	1103
CQUAD4	682	682	1135	1097	1096	1134
CQUAD4	683	683	1097	1103	1102	1096
CQUAD4	684	684	1103	1109	1108	1102
CQUAD4	1601	601	2033	2039	2038	2032
CQUAD4	1602	602	2039	2047	2046	2038
CQUAD4	1603	603	2047	2056	2055	2046
CQUAD4	1604	604	2056	2068	2067	2055
CQUAD4	1605	605	2068	2081	2080	2067
CQUAD4	1607	607	2038	2182	2181	2030
CQUAD4	1608	608	2038	2046	2183	2182
CQUAD4	1609	609	2046	2055	2184	2183
CQUAD4	1610	610	2055	2067	2185	2184
CQUAD4	1611	611	2067	2080	2186	2185
CQUAD4	1613	613	2182	2183	2044	2029
CQUAD4	1614	614	2183	2184	2053	2044
CQUAD4	1615	615	2184	2185	2065	2053
CQUAD4	1616	616	2185	2186	2078	2065
CQUAD4	1618	618	2027	2044	2188	2187
CQUAD4	1619	619	2044	2053	2189	2188
CQUAD4	1620	620	2053	2065	2190	2189
CQUAD4	1621	621	2065	2078	2191	2190
CQUAD4	1623	623	2188	2189	2052	2026
CQUAD4	1624	624	2189	2190	2064	2052
CQUAD4	1625	625	2190	2191	2077	2064
CQUAD4	1627	627	2025	2052	2193	2192
CQUAD4	1628	628	2052	2064	2063	2193
CQUAD4	1632	632	2192	2193	2051	2024
CQUAD4	1633	633	2193	2063	2062	2051
CQUAD4	1634	634	2063	2245	2244	2062
CQUAD4	1635	635	2245	2076	2075	2244
CQUAD4	1639	639	2062	2061	2021	2022
CQUAD4	1640	640	2062	2244	2243	2061
CQUAD4	1641	641	2244	2075	2074	2243
CQUAD4	1643	643	2021	2061	2060	2020
CQUAD4	1644	644	2061	2243	2242	2060
CQUAD4	1645	645	2243	2074	2073	2242
CQUAD4	1648	648	2069	2242	2143	2019
CQUAD4	1649	649	2242	2073	2072	2143
CQUAD4	1661	661	2142	2101	2100	2141
CQUAD4	1662	662	2101	2107	2106	2100
CQUAD4	1663	663	2107	2113	2112	2106
CQUAD4	1664	664	2141	2100	2127	2140
CQUAD4	1665	665	2100	2106	2130	2127
CQUAD4	1666	666	2106	2112	2133	2130
CQUAD4	1667	667	2140	2127	2099	2139
CQUAD4	1668	668	2127	2130	2105	2099
CQUAD4	1669	669	2130	2133	2111	2105
CQUAD4	1670	670	2139	2099	2126	2138
CQUAD4	1671	671	2099	2105	2129	2126
CQUAD4	1672	672	2105	2111	2132	2129
CQUAD4	1673	673	2138	2126	2098	2137
CQUAD4	1674	674	2126	2129	2104	2098
CQUAD4	1675	675	2129	2132	2110	2104
CQUAD4	1676	676	2137	2098	2125	2136
CQUAD4	1677	677	2098	2104	2128	2125
CQUAD4	1678	678	2104	2110	2131	2128
CQUAD4	1679	679	2136	2125	2097	2135
CQUAD4	1680	680	2125	2128	2103	2097
CQUAD4	1681	681	2128	2131	2109	2103
CQUAD4	1682	682	2135	2097	2096	2134
CQUAD4	1683	683	2097	2103	2102	2096
CQUAD4	1684	684	2103	2109	2108	2102
CQUAD8	701	701	1257	1252	1251	1233
+701	1506	1512				1507
CQUAD8	702	702	1252	1257	1258	1253
+702	1508	1502				1509
CQUAD8	703	703	1253	1258	1259	1254
+703	1509	1503				1510
CQUAD8	704	704	1254	1259	1260	1255
+704	1510	1504				1511
CQUAD8	705	705	1255	1260	1261	1256
+705	1511	1505				1512
CQUAD8	707	707	1257	1262	1263	1258
+707	1519	1513				1519
CQUAD8	708	708	1258	1263	1264	1259
+708	1520	1514				1520
CQUAD8	709	709	1259	1264	1265	1260
+709	1521	1515				1521
CQUAD8	710	710	1260	1265	1266	1261
+710	1522	1516				1522
CQUAD8	1701	701	2257	2252	2251	2233
+1701	2506	2512				2507
CQUAD8	1702	702	2252	2257	2258	2253
+1702	2508	2502				2509
CQUAD8	1703	703	2253	2258	2259	2254
+1703	2509	2503				2510
CQUAD8	1704	704	2254	2259	2260	2255
+1704	2510	2504				2511
CQUAD8	1705	705	2255	2260	2261	2256
+1705	2511	2505				2512
CQUAD8	1707	707	2257	2262	2263	2258
+1707	2519	2513				2519
CQUAD8	1708	708	2258	2263	2264	2259
+1708	2520	2514				2520
CQUAD8	1709	709	2259	2264	2265	2260
+1709	2521	2515				2521
CQUAD8	1710	710	2260	2265	2266	2261
+1710	2522	2516				2522
CSHEAR	71	71	1034	1040	1037	1031
CSHEAR	72	72	1040	1048	1045	1037
CSHEAR	73	73	1048	1057	1054	1045

CSHEAR	74	74	1057	1069	1066	1054
CSHEAR	75	75	1069	1082	1121	1066
CSHEAR	76	76	1094	1079	1114	1121
CSHEAR	77	71	2034	2040	2037	2031
CSHEAR	78	72	2040	2048	2045	2037
CSHEAR	79	73	2048	2057	2054	2045
CSHEAR	80	74	2057	2069	2066	2054
CSHEAR	81	75	2069	2082	2121	2066
CSHEAR	82	76	2094	2079	2114	2121
CSHEAR	82	201	1465	1464	1466	1467
CSHEAR	202	202	1275	1276	1464	1465
CSHEAR	203	203	1280	1290	1276	1275
CSHEAR	204	204	1114	1079	1293	1292
CSHEAR	205	201	2465	2464	2466	2467
CSHEAR	206	202	2275	2276	2464	2465
CSHEAR	207	203	2280	2290	2276	2275
CSHEAR	208	204	2114	2079	2293	2292
CSHEAR	642	642	1075	1088	1087	1074
CSHEAR	646	646	1074	1087	1086	1073
CSHEAR	650	650	1073	1086	1085	1072
CSHEAR	651	651	1007	1018	1016	1006
CSHEAR	652	652	1006	1016	1180	1176
CSHEAR	653	653	1176	1180	1014	1005
CSHEAR	654	654	1005	1014	1179	1175
CSHEAR	655	655	1175	1179	1012	1004
CSHEAR	656	656	1004	1012	1178	1174
CSHEAR	657	657	1174	1178	1010	1003
CSHEAR	658	658	1003	1010	1177	1173
CSHEAR	659	659	1173	1177	1194	1002
CSHEAR	660	660	1002	1194	1008	1001
CSHEAR	1642	642	2075	2088	2087	2074
CSHEAR	1646	646	2074	2087	2086	2073
CSHEAR	1650	650	2073	2086	2085	2072
CSHEAR	1651	651	2007	2018	2016	2006
CSHEAR	1652	652	2006	2016	2180	2176
CSHEAR	1653	653	2176	2180	2014	2005
CSHEAR	1654	654	2005	2014	2179	2175
CSHEAR	1655	655	2175	2179	2012	2004
CSHEAR	1656	656	2004	2012	2178	2174
CSHEAR	1657	657	2174	2178	2010	2003
CSHEAR	1658	658	2003	2010	2177	2173
CSHEAR	1659	659	2173	2177	2194	2002
CSHEAR	1660	660	2002	2194	2008	2001
CSHEAR	3105	3105	3063	3064	3066	3065
CSHEAR	3106	3105	3067	3068	3070	3069
CTRIA3	606	606	1032	1038	1030	
CTRIA3	612	612	1181	1182	1029	
CTRIA3	617	617	1029	1044	1027	
CTRIA3	622	622	1187	1188	1026	
CTRIA3	626	626	1026	1052	1025	
CTRIA3	629	629	1064	1245	1063	
CTRIA3	630	630	1064	1077	1245	
CTRIA3	631	631	1077	1076	1245	
CTRIA3	636	636	1051	1023	1024	
CTRIA3	637	637	1051	1022	1023	
CTRIA3	638	638	1062	1022	1051	
CTRIA3	647	647	1019	1020	1060	
CTRIA3	1606	606	2032	2038	2030	
CTRIA3	1612	612	2181	2182	2029	
CTRIA3	1617	617	2029	2044	2027	
CTRIA3	1622	622	2187	2188	2026	
CTRIA3	1626	626	2026	2052	2025	
CTRIA3	1629	629	2064	2245	2063	
CTRIA3	1630	630	2064	2077	2245	
CTRIA3	1631	631	2077	2076	2245	
CTRIA3	1636	636	2051	2023	2024	
CTRIA3	1637	637	2051	2022	2023	
CTRIA3	1638	638	2062	2022	2051	
CTRIA3	1647	647	2019	2020	2060	
CTRIA6	706	706	1262	1257	1233	1518
+706	99.5					1512
CTRIA6	1706	706	2262	2257	2233	2518
+1706	99.5					2512
DMIG	*VTAIL	0	6	1	0	2517
DMIG	*VTAIL		357			+706
+9001	357		1			+1706
DMIG	*VTAIL		358			
+9002	357		1			*9001
+9003	358		1			*9002
DMIG	*VTAIL		359			*9003
+9004	357		1			
+9005	358		1			*9004
+9006	359		1			*90



*9033	361	1	-3.08830E+03
*9034	362	1	0.163581E+04
*9035	363	1	-9.34300E+04
*9036	364	1	0.133364E+05
DMIG	*VTAIL	367	1
*9037	357	1	0.156429E+04
*9038	358	1	-1.26722E+05
*9039	359	1	-2.49630E+02
*9040	360	1	0.252357E+03
*9041	361	1	0.220342E+02
*9042	362	1	-3.48368E+01
*9043	363	1	0.213553E-02
*9044	364	1	0.287588E+00
*9045	367	1	0.573159E+05
DMIG	*VTAIL	368	1
*9046	357	1	0.150006E+03
*9047	358	1	-3.49447E+04
*9048	359	1	-1.84666E+05
*9049	360	1	-5.97411E+03
*9050	361	1	0.413201E+03
*9051	362	1	-4.89800E+02
*9052	363	1	-2.71009E+00
*9053	364	1	-2.02789E+01
*9054	367	1	-5.02776E+04
*9055	368	1	0.246725E+05
DMIG	*VTAIL	369	1
*9056	357	1	0.292477E+03
*9057	358	1	0.106678E+04
*9058	359	1	-3.72974E+04
*9059	360	1	-1.63066E+05
*9060	361	1	-7.20338E+03
*9061	362	1	0.400484E+03
*9062	363	1	0.516836E+00
*9063	364	1	-1.41972E+02
*9064	367	1	0.245134E+03
*9065	368	1	-6.25047E+04
*9066	369	1	0.208907E+05
DMIG	*VTAIL	370	1
*9067	357	1	0.109520E+02
*9068	358	1	-4.29165E+02
*9069	359	1	0.371999E+03
*9070	360	1	-2.28343E+04
*9071	361	1	-1.47446E+05
*9072	362	1	0.690143E+03
*9073	363	1	0.723676E+03
*9074	364	1	0.244021E+02
*9075	367	1	-5.74195E+02
*9076	368	1	0.416297E+03
*9077	369	1	-4.16404E+04
*9078	370	1	0.182966E+05
DMIG	*VTAIL	371	1
*9079	357	1	-3.19898E+00
*9080	358	1	-1.05520E+02
*9081	359	1	0.537074E+02
*9082	360	1	0.115046E+03
*9083	361	1	-4.55381E+03
*9084	362	1	-1.31301E+05
*9085	363	1	0.208463E+04
*9086	364	1	-2.71085E+03
*9087	367	1	0.123231E+02
*9088	368	1	-2.24544E+03
*9089	369	1	0.874696E+03
*9090	370	1	-7.44486E+04
*9091	371	1	0.300624E+05
DMIG	*VTAIL	372	1
*9092	357	1	0.463602E+00
*9093	358	1	-6.77371E+01
*9094	359	1	-1.34083E+02
*9095	360	1	0.577641E+02
*9096	361	1	0.669330E+02
*9097	362	1	-9.15742E+03
*9098	363	1	-5.44593E+04
*9099	364	1	0.116824E+04
*9100	367	1	-7.94538E+01
*9101	368	1	0.789193E+02
*9102	369	1	-3.16023E+03
*9103	370	1	0.187626E+04
*9104	371	1	-1.92798E+05
*9105	372	1	0.276338E+05
DMIG	*VTAIL	373	1
*9106	357	1	0.484957E-02
*9107	358	1	0.440965E+00
*9108	359	1	-6.91597E+00
*9109	360	1	-8.75753E+00
*9110	361	1	0.363362E+02
*9111	362	1	0.411035E+01
*9112	363	1	-1.63347E+04
*9113	364	1	-2.58823E+04
*9114	367	1	0.345739E+00
*9115	368	1	-4.22117E+01
*9116	369	1	0.101714E+02
*9117	370	1	-6.33944E+02
*9118	371	1	0.270474E+04
*9119	372	1	-7.30833E+04
*9120	373	1	0.703131E+04
DMIG	*VTAIL	375	1
*9121	357	1	-2.30046E+04
*9122	358	1	-4.97159E+05
*9123	359	1	0.157355E+04
*9124	360	1	0.126726E+04
*9125	361	1	0.195618E+03
*9126	362	1	-2.47898E+02
*9127	363	1	0.635440E+01
*9128	364	1	-7.84751E+00
*9129	367	1	0.378804E+03
*9130	368	1	-1.42639E+04
*9131	369	1	0.123205E+04
*9132	370	1	0.216183E+03
*9133	371	1	-4.67290E+02
*9134	372	1	0.428324E+01
*9135	373	1	-9.14807E+00
*9136	375	1	0.925573E+06
DMIG	*VTAIL	376	1
*9137	357	1	0.922286E+03

*9034	
*9035	
*9036	
*9037	
*9038	
*9039	
*9040	
*9041	
*9042	
*9043	
*9044	
*9045	
*9046	
*9047	
*9048	
*9049	
*9050	
*9051	
*9052	
*9053	
*9054	
*9055	
*9056	
*9057	
*9058	
*9059	
*9060	
*9061	
*9062	
*9063	
*9064	
*9065	
*9066	
*9067	
*9068	
*9069	
*9070	
*9071	
*9072	
*9073	
*9074	
*9075	
*9076	
*9077	
*9078	
*9079	
*9080	
*9081	
*9082	
*9083	
*9084	
*9085	
*9086	
*9087	
*9088	
*9089	
*9090	
*9091	
*9092	
*9093	
*9094	
*9095	
*9096	
*9097	
*9098	
*9099	
*9100	
*9101	
*9102	
*9103	
*9104	
*9105	
*9106	
*9107	
*9108	
*9109	
*9110	
*9111	
*9112	
*9113	
*9114	
*9115	
*9116	
*9117	
*9118	
*9119	
*9120	
*9121	
*9122	
*9123	
*9124	
*9125	
*9126	
*9127	
*9128	
*9129	
*9130	
*9131	
*9132	
*9133	
*9134	
*9135	
*9136	
*9137	
*9138	

*9138	358	1	0.349061E+04	*9139
*9139	359	1	-2.72521E+05	*9140
*9140	360	1	0.153243E+04	*9141
*9141	361	1	0.667605E+03	*9142
*9142	362	1	-7.40884E+01	*9143
*9143	363	1	-2.43058E+02	*9144
*9144	364	1	0.583973E+00	*9145
*9145	367	1	0.194037E+04	*9146
*9146	368	1	0.129929E+04	*9147
*9147	369	1	0.235053E+04	*9148
*9148	370	1	0.756407E+02	*9149
*9149	371	1	0.771059E+02	*9150
*9150	372	1	-6.00606E+00	*9151
*9151	373	1	0.197780E+01	*9152
*9152	375	1	-3.11505E+05	*9153
*9153	376	1	0.109246E+06	
DMIG	*VTAIL	377	1	*9154
*9154	357	1	0.317443E+03	*9155
*9155	358	1	0.219380E+04	*9156
*9156	359	1	0.208271E+04	*9157
*9157	360	1	-2.79276E+05	*9158
*9158	361	1	0.110103E+04	*9159
*9159	362	1	0.550257E+02	*9160
*9160	363	1	0.811533E+02	*9161
*9161	364	1	-2.11053E+00	*9162
*9162	367	1	0.716540E+03	*9163
*9163	368	1	0.171546E+04	*9164
*9164	369	1	0.894905E+03	*9165
*9165	370	1	0.158823E+04	*9166
*9166	371	1	0.561757E+03	*9167
*9167	372	1	0.690199E+02	*9168
*9168	373	1	0.714289E+01	*9169
*9169	375	1	0.363833E+04	*9170
*9170	376	1	-1.87741E+05	*9171
*9171	377	1	0.775901E+05	
DMIG	*VTAIL	378	1	*9172
*9172	357	1	-1.110646E+02	*9173
*9173	358	1	0.133390E+03	*9174
*9174	359	1	0.711357E+03	*9175
*9175	360	1	0.202839E+04	*9176
*9176	361	1	-2.61682E+05	*9177
*9177	362	1	0.139574E+04	*9178
*9178	363	1	0.872899E+03	*9179
*9179	364	1	0.177372E+03	*9180
*9180	367	1	0.741269E+02	*9181
*9181	368	1	0.487425E+03	*9182
*9182	369	1	0.121023E+04	*9183
*9183	370	1	0.188910E+04	*9184
*9184	371	1	0.140030E+04	*9185
*9185	372	1	0.265625E+03	*9186
*9186	373	1	0.127903E+03	*9187
*9187	375	1	-2.34087E+03	*9188
*9188	376	1	0.178520E+04	*9189
*9189	377	1	-1.13866E+05	*9190
*9190	378	1	0.701957E+05	
DMIG	*VTAIL	379	1	*9191
*9191	357	1	0.555097E+00	*9192
*9192	358	1	-3.83492E+02	*9193
*9193	359	1	0.749947E+02	*9194
*9194	360	1	0.542347E+03	*9195
*9195	361	1	0.295398E+04	*9196
*9196	362	1	-1.56110E+05	*9197
*9197	363	1	0.237945E+03	*9198
*9198	364	1	0.100000E+04	*9199
*9199	367	1	-8.53152E+01	*9200
*9200	368	1	0.224612E+02	*9201
*9201	369	1	0.450535E+03	*9202
*9202	370	1	0.123586E+04	*9203
*9203	371	1	0.192022E+04	*9204
*9204	372	1	0.747017E+03	*9205
*9205	373	1	0.679657E+02	*9206
*9206	375	1	0.693183E+03	*9207
*9207	376	1	-5.25747E+03	*9208
*9208	377	1	0.193872E+04	*9209
*9209	378	1	-1.43803E+05	*9210
*9210	379	1	0.259716E+05	
DMIG	*VTAIL	380	1	*9211
*9211	357	1	-6.81648E-01	*9212
*9212	358	1	0.121017E+01	*9213
*9213	359	1	-3.88187E+01	*9214
*9214	360	1	0.424170E+02	*9215
*9215	361	1	0.491571E+03	*9216
*9216	362	1	0.156462E+04	*9217
*9217	363	1	-1.88062E+05	*9218
*9218	364	1	-2.22663E+04	*9219
*9219	367	1	0.511802E+00	*9220
*9220	368	1	-3.37087E+01	*9221
*9221	369	1	0.222733E+02	*9222
*9222	370	1	0.254233E+03	*9223
*9223	371	1	0.570111E+03	*9224
*9224	372	1	0.211878E+04	*9225
*9225	373	1	0.303574E+03	*9226
*9226	375	1	-2.36553E+02	*9227
*9227	376	1	0.872011E+02	*9228
*9228	377	1	-2.26099E+03	*9229
*9229	378	1	0.236420E+04	*9230
*9230	379	1	-1.00636E+05	*9231
*9231	380	1	0.832375E+05	
DMIG	*VTAIL	381	1	*9232
*9232	357	1	-2.15496E-02	*9233
*9233	358	1	-1.27980E+00	*9234
*9234	359	1	-6.70087E+00	*9235
*9235	360	1		



\*9247 375 1 0.842499E+01  
 \*9248 376 1 -3.20128E+02  
 \*9249 377 1 0.773381E+02  
 \*9250 378 1 -6.17478E+03  
 \*9251 379 1 0.379035E+04  
 \*9252 380 1 -1.13558E+05  
 \*9253 381 1 0.131793E+05  
 DMIG \*VTAIL 382 1  
 \*9254 357 1 -2.11797E-02  
 \*9255 358 1 0.196775E-01  
 \*9256 359 1 -1.54809E+00  
 \*9257 360 1 0.835219E+00  
 \*9258 361 1 0.461861E+01  
 \*9259 362 1 0.180099E+02  
 \*9260 363 1 0.393001E+02  
 \*9261 364 1 0.813303E+03  
 \*9262 367 1 0.352611E-02  
 \*9263 368 1 -2.18807E-01  
 \*9264 369 1 0.135616E+00  
 \*9265 370 1 0.447717E+01  
 \*9266 371 1 0.122064E+02  
 \*9267 372 1 0.802424E+01  
 \*9268 373 1 -4.79232E+02  
 \*9269 375 1 0.117695E+00  
 \*9270 376 1 -5.51862E+00  
 \*9271 377 1 0.991771E+00  
 \*9272 378 1 -4.39420E+01  
 \*9273 379 1 -1.39387E+03  
 \*9274 380 1 0.164894E+04  
 \*9275 381 1 -4.75810E+03  
 \*9276 382 1 0.179643E+04  
 DMIG \*VTAIL 383 1  
 \*9277 357 1 0.311274E-03  
 \*9278 358 1 -4.79934E-02  
 \*9279 359 1 0.182106E-01  
 \*9280 360 1 -1.83852E+00  
 \*9281 361 1 -1.16182E+01  
 \*9282 362 1 -2.55904E+01  
 \*9283 363 1 0.112750E+01  
 \*9284 364 1 -3.58622E+02  
 \*9285 367 1 -1.79107E-02  
 \*9286 368 1 0.109064E-01  
 \*9287 369 1 -7.97350E-01  
 \*9288 370 1 -8.65236E+00  
 \*9289 371 1 -2.58086E+01  
 \*9290 372 1 -3.18473E+01  
 \*9291 373 1 -2.49386E+01  
 \*9292 375 1 0.754849E-01  
 \*9293 376 1 -2.71080E+00  
 \*9294 377 1 0.703442E+00  
 \*9295 378 1 -6.11849E+01  
 \*9296 379 1 0.611220E+02  
 \*9297 380 1 0.131850E+04  
 \*9298 381 1 -6.53645E+03  
 \*9299 382 1 -6.43881E+03  
 \*9300 383 1 0.830302E+03  
 DMIG \*VTAIL 384 1  
 \*9301 357 1 0.265363E+05  
 \*9302 358 1 0.282354E+05  
 \*9303 359 1 -9.48610E+04  
 \*9304 360 1 -2.19314E+04  
 \*9305 361 1 -4.75010E+03  
 \*9306 362 1 0.553337E+02  
 \*9307 363 1 0.194540E+01  
 \*9308 364 1 -3.84202E+01  
 \*9309 367 1 0.284832E+04  
 \*9310 368 1 -1.16448E+04  
 \*9311 369 1 -3.38989E+04  
 \*9312 370 1 -1.57428E+03  
 \*9313 371 1 0.485381E+02  
 \*9314 372 1 -9.26415E+01  
 \*9315 373 1 -1.22039E+01  
 \*9316 375 1 -5.69831E+06  
 \*9317 376 1 -9.48471E+05  
 \*9318 377 1 -3.70924E+04  
 \*9319 378 1 -1.57310E+03  
 \*9320 379 1 0.111069E+03  
 \*9321 380 1 -1.82494E+02  
 \*9322 381 1 0.664130E+01  
 \*9323 382 1 0.991842E-01  
 \*9324 383 1 0.593778E-01  
 \*9325 384 1 0.149748E+07  
 DMIG \*VTAIL 385 1  
 \*9326 357 1 0.710800E+01  
 \*9327 358 1 0.285959E+03  
 \*9328 359 1 -4.43238E+03  
 \*9329 360 1 0.490161E+04  
 \*9330 361 1 -3.23369E+03  
 \*9331 362 1 0.898562E+02  
 \*9332 363 1 -7.95076E+01  
 \*9333 364 1 -4.06666E+01  
 \*9334 367 1 0.952642E+02  
 \*9335 368 1 0.256148E+03  
 \*9336 369 1 0.903557E+03  
 \*9337 370 1 0.597779E+03  
 \*9338 371 1 0.124134E+03  
 \*9339 372 1 -4.70681E+01  
 \*9340 373 1 -3.73270E+00  
 \*9341 375 1 -1.39221E+04  
 \*9342 376 1 -4.19624E+03  
 \*9343 377 1 -3.51213E+05  
 \*9344 378 1 -5.80778E+03  
 \*9345 379 1 0.515640E+02  
 \*9346 380 1 0.268160E+01  
 \*9347 381 1 -2.03257E+01  
 \*9348 382 1 -9.81071E-01  
 \*9349 383 1 -7.14582E-02  
 \*9350 384 1 -2.69212E+04  
 \*9351 385 1 0.349451E+05  
 DMIG \*VTAIL 386 1  
 \*9352 357 1 0.106815E+00  
 \*9353 358 1 -2.24760E+02  
 \*9354 359 1 0.196095E+03  
 \*9355 360 1 -3.59483E+03

\*9248  
 \*9249  
 \*9250  
 \*9251  
 \*9252  
 \*9253  
 \*9254  
 \*9255  
 \*9256  
 \*9257  
 \*9258  
 \*9259  
 \*9260  
 \*9261  
 \*9262  
 \*9263  
 \*9264  
 \*9265  
 \*9266  
 \*9267  
 \*9268  
 \*9269  
 \*9270  
 \*9271  
 \*9272  
 \*9273  
 \*9274  
 \*9275  
 \*9276  
 \*9277  
 \*9278  
 \*9279  
 \*9280  
 \*9281  
 \*9282  
 \*9283  
 \*9284  
 \*9285  
 \*9286  
 \*9287  
 \*9288  
 \*9289  
 \*9290  
 \*9291  
 \*9292  
 \*9293  
 \*9294  
 \*9295  
 \*9296  
 \*9297  
 \*9298  
 \*9299  
 \*9300  
 \*9301  
 \*9302  
 \*9303  
 \*9304  
 \*9305  
 \*9306  
 \*9307  
 \*9308  
 \*9309  
 \*9310  
 \*9311  
 \*9312  
 \*9313  
 \*9314  
 \*9315  
 \*9316  
 \*9317  
 \*9318  
 \*9319  
 \*9320  
 \*9321  
 \*9322  
 \*9323  
 \*9324  
 \*9325  
 \*9326  
 \*9327  
 \*9328  
 \*9329  
 \*9330  
 \*9331  
 \*9332  
 \*9333  
 \*9334  
 \*9335  
 \*9336  
 \*9337  
 \*9338  
 \*9339  
 \*9340  
 \*9341  
 \*9342  
 \*9343  
 \*9344  
 \*9345  
 \*9346  
 \*9347  
 \*9348  
 \*9349  
 \*9350  
 \*9351  
 \*9352  
 \*9353  
 \*9354  
 \*9355  
 \*9356

\*9356 361 1 0.606719E+04  
 \*9357 362 1 0.281741E+03  
 \*9358 363 1 0.117268E+03  
 \*9359 364 1 0.195964E+02  
 \*9360 367 1 -4.52626E+00  
 \*9361 368 1 0.496996E+02  
 \*9362 369 1 0.352965E+03  
 \*9363 370 1 -1.42282E+03  
 \*9364 371 1 0.322191E+03  
 \*9365 372 1 0.854219E+02  
 \*9366 373 1 0.160192E+02  
 \*9367 375 1 0.323717E+03  
 \*9368 376 1 -3.18303E+02  
 \*9369 377 1 -4.20586E+03  
 \*9370 378 1 -3.14870E+05  
 \*9371 379 1 -6.89858E+03  
 \*9372 380 1 0.423422E+01  
 \*9373 381 1 0.102897E+02  
 \*9374 382 1 0.527408E+00  
 \*9375 383 1 0.337155E-01  
 \*9376 384 1 0.643374E+03  
 \*9377 385 1 -3.57044E+04  
 \*9378 386 1 0.322247E+05  
 DMIG \*VTAIL 387 1  
 \*9379 357 1 -3.38835E+00  
 \*9380 358 1 -5.46516E-01  
 \*9381 359 1 0.188194E+00  
 \*9382 360 1 0.399533E-01  
 \*9383 361 1 0.777587E-02  
 \*9384 362 1 -9.05881E-04  
 \*9385 363 1 0.475235E-04  
 \*9386 364 1 0.366288E-04  
 \*9387 367 1 -1.48039E-01  
 \*9388 368 1 0.885053E-01  
 \*9389 369 1 0.672132E-01  
 \*9390 370 1 0.462911E-02  
 \*9391 371 1 -8.49053E-03  
 \*9392 372 1 0.795566E-04  
 \*9393 373 1 0.977434E-05  
 \*9394 375 1 -9.60622E+02  
 \*9395 376 1 0.984160E+01  
 \*9396 377 1 0.481161E-01  
 \*9397 378 1 -8.91686E-03  
 \*9398 379 1 -7.53510E-03  
 \*9399 380 1 -2.04675E-04  
 \*9400 381 1 0.508574E-05  
 \*9401 382 1 -6.08804E-07  
 \*9402 383 1 0.551832E-07  
 \*9403 384 1 -1.78513E+03  
 \*9404 385 1 0.105938E+04  
 \*9405 386 1 -4.19783E+04  
 \*9406 387 1 0.497765E+04  
 DMIG \*VTAIL 388 1  
 \*9407 357 1 0.396140E-01  
 \*9408 358 1 -8.83404E-01  
 \*9409 359 1 0.845446E+00  
 \*9410 360 1 -4.68879E+01  
 \*9411 361 1 0.502871E+02  
 \*9412 362 1 0.250159E+03  
 \*9413 363 1 0.874634E+04  
 \*9414 364 1 0.134833E+04  
 \*9415 367 1 0.310222E-01  
 \*9416 368 1 -2.36734E+00  
 \*9417 369 1 0.235628E+01  
 \*9418 370 1 0.161871E+02  
 \*9419 371 1 0.211136E+02  
 \*9420 372 1 -9.61292E+03  
 \*9421 373 1 0.278446E+03  
 \*9422 375 1 0.102905E+02  
 \*9423 376 1 -2.86084E+01  
 \*9424 377 1 0.459790E+01  
 \*9425 378 1 -2.25652E+02  
 \*9426 379 1 -3.62756E+03  
 \*9427 380 1 -5.13037E+05  
 \*9428 381 1 -1.24016E+04  
 \*9429 382 1 -3.03660E+04  
 \*9430 383 1 -8.59051E+03  
 \*9431 384 1 0.185899E+02  
 \*9432 385 1 -1.06061E+03  
 \*9433 386 1 0.590076E+03  
 \*9434 387 1 -1.60275E+04  
 \*9435 388 1 0.483130E+05  
 DMIG \*VTAIL 389 1  
 \*9436 357 1 0.103213E+02  
 \*9437 358 1 0.166475E+01  
 \*9438 359 1 -5.73260E+01  
 \*9439 360 1 -1.21702E+01  
 \*9440 361 1 -2.36861E+00  
 \*9441 362 1 0.275941E-01  
 \*9442 363 1 -1.44762E-02  
 \*9443 364 1 -1.12184E-02  
 \*9444 367 1 0.453988E+00  
 \*9445 368 1 -2.69597E+01  
 \*9446 369 1 -2.04739E+01  
 \*9447 370 1 -1.41008E+00  
 \*9448 371 1 0.258631E-01  
 \*9449 372 1 -2.42338E-02  
 \*9450 373 1 -2.97737E-03  
 \*9451 375 1 0.292616E+04  
 \*9452 376 1 -2.99786E+02  
 \*9453 377 1 -1.46567E-01  
 \*9454 378 1 0.271617E-01  
 \*9455 379 1 0.229527E-01  
 \*9456 380 1 0.623463E-03  
 \*9457 381 1 -1.54917E-03  
 \*9458 382 1 0.185448E-05  
 \*9459 383 1 -1.68094E-05  
 \*9460 384 1 -2.37751E+04  
 \*9461 385 1 0.187243E+04  
 \*9462 386 1 0.147890E+03  
 \*9463 387 1 -4.64456E+02  
 \*9464 388 1 0.463955E+01  
 \*9465 389 1 0.507054E+04  
 DMIG \*VTAIL 390 1

\*9357  
 \*9358  
 \*9359  
 \*9360  
 \*9361  
 \*9362  
 \*9363  
 \*9364  
 \*9365  
 \*9366  
 \*9367  
 \*9368  
 \*9369  
 \*9370  
 \*9371  
 \*9372  
 \*9373  
 \*9374  
 \*9375  
 \*9376  
 \*9377  
 \*9378  
 \*9379  
 \*9380  
 \*9381  
 \*9382  
 \*9383  
 \*9384  
 \*9385  
 \*9386  
 \*9387  
 \*9388  
 \*9389  
 \*9390  
 \*9391  
 \*9392  
 \*9393  
 \*9394  
 \*9395  
 \*9396  
 \*9397  
 \*9398  
 \*9399  
 \*9400  
 \*9401  
 \*9402  
 \*9403  
 \*9404  
 \*9405  
 \*9406  
 \*9407  
 \*9408  
 \*9409  
 \*9410  
 \*9411  
 \*9412  
 \*9413  
 \*9414  
 \*9415  
 \*9416  
 \*9417  
 \*9418  
 \*9419  
 \*9420  
 \*9421  
 \*9422  
 \*9423  
 \*9424  
 \*9425  
 \*9426  
 \*9427  
 \*9428  
 \*9429  
 \*9430  
 \*9431  
 \*9432  
 \*9433  
 \*9434  
 \*9435  
 \*9436  
 \*9437  
 \*9438  
 \*9439  
 \*9440  
 \*9441  
 \*9442  
 \*9443  
 \*9444  
 \*9445  
 \*9446  
 \*9447  
 \*9448  
 \*9449  
 \*9450  
 \*9451  
 \*9452  
 \*9453  
 \*9454  
 \*9455  
 \*9456  
 \*9457  
 \*9458  
 \*9459  
 \*9460  
 \*9461  
 \*9462  
 \*9463  
 \*9464  
 \*9465  
 \*9466



*9466	384	1	0.243494E+04	*9467
*9467	385	1	-4.08017E+04	*9468
*9468	386	1	0.137165E+04	*9469
*9469	389	1	-4.14326E+04	*9470
*9470	390	1	0.591447E+04	
DMIG	*VTAIL	391	1	*9471
*9471	385	1	0.137165E+04	*9472
*9472	386	1	-2.73356E+04	*9473
*9473	387	1	0.123460E+04	*9474
*9474	389	1	0.729919E+02	*9475
*9475	390	1	-1.60803E+04	*9476
*9476	391	1	0.320895E+04	
DMIG	*VTAIL	392	1	*9477
*9477	386	1	0.123460E+04	*9478
*9478	387	1	-1.83606E+04	*9479
*9479	388	1	0.532735E+03	*9480
*9480	389	1	-2.70690E+02	*9481
*9481	390	1	0.120338E+03	*9482
*9482	391	1	-1.61773E+04	
*9483	392	1	0.207529E+04	*9484
DMIG	*VTAIL	393	1	*9485
*9484	387	1	0.571031E+03	*9486
*9485	388	1	-6.73689E+03	*9487
*9486	389	1	0.223540E+01	*9488
*9487	390	1	-9.93771E+01	*9489
*9488	391	1	0.711305E+02	*9490
*9489	392	1	-4.82110E+03	
*9490	393	1	0.521340E+03	*9491
DMIG	*VTAIL	406	1	*9492
*9491	357	1	-1.73625E+05	*9493
*9492	358	1	-2.80045E+04	*9494
*9493	359	1	0.964342E+04	*9495
*9494	360	1	0.204728E+04	*9496
*9495	361	1	0.398450E+03	*9497
*9496	362	1	-4.64190E+02	*9498
*9497	363	1	0.243519E+01	*9499
*9498	364	1	0.188718E+01	*9500
*9499	367	1	-7.63702E+03	*9501
*9500	368	1	0.453518E+04	*9502
*9501	369	1	0.344413E+04	*9503
*9502	370	1	0.237204E+03	*9504
*9503	371	1	-4.35070E+02	*9505
*9504	372	1	0.407663E+01	*9506
*9505	373	1	0.500855E+00	*9507
*9506	375	1	-4.43406E+06	*9508
*9507	376	1	0.504302E+05	*9509
*9508	377	1	0.246556E+04	*9510
*9509	378	1	-4.56917E+02	*9511
*9510	379	1	-3.86113E+02	*9512
*9511	380	1	-1.04880E+01	*9513
*9512	381	1	0.260603E+00	*9514
*9513	382	1	-3.11963E-02	*9515
*9514	383	1	0.282769E-02	*9516
*9515	384	1	-9.68350E+06	*9517
*9516	385	1	0.197004E+04	*9518
*9517	386	1	-3.58031E+03	*9519
*9518	387	1	0.100278E+03	*9520
*9519	388	1	-1.10108E+02	*9521
*9520	389	1	-3.05457E+04	
*9521	406	1	0.176490E+07	*9522
DMIG	*VTAIL	407	1	*9523
*9522	357	1	-9.11903E+05	*9524
*9523	358	1	0.728130E+04	*9525
*9524	359	1	0.231467E+03	*9526
*9525	360	1	-8.41305E+02	*9527
*9526	361	1	0.529237E+01	*9528
*9527	362	1	-9.84070E+00	*9529
*9528	363	1	0.155806E+00	*9530
*9529	364	1	0.153670E-01	*9531
*9530	367	1	-5.01667E+05	*9532
*9531	368	1	0.663999E+03	*9533
*9532	369	1	-9.18211E+02	*9534
*9533	370	1	-9.38795E+00	*9535
*9534	371	1	0.891667E+00	*9536
*9535	372	1	-9.55200E+00	*9537
*9536	373	1	0.604210E-01	*9538
*9537	375	1	-2.90253E+04	*9539
*9538	376	1	0.464443E+03	*9540
*9539	377	1	0.589231E+02	
*9540	378	1	0.925670E+00	*9541
*9541	379	1	0.568770E+00	
*9542	380	1	-9.65196E-01	*9542
*9543	381	1	0.253072E-01	*9543
*9544	382	1	0.225246E-03	*9544
*9545	383	1	0.233053E-03	*9545
*9546	384	1	0.675815E+04	*9546
*9547	385	1	-9.39438E+00	*9547
*9548	386	1	0.715953E+00	*9548
*9549	387	1	-3.79983E-01	*9549
*9550	388	1	0.102725E-01	*9550
*9551	389	1	0.115747E+01	*9551
*9552	406	1	-1.94711E+04	*9552
*9553	407	5	0.676867E+06	*9553
*9554	407	1	0.122983E+06	
DMIG	*VTAIL	407	5	*9554
*9554	357	1	0.191080E+06	*9555
*9555	358	1	-3.56714E+05	*9556
*9556	359	1	-2.80960E+05	*9557
*9557	360	1	-1.60270E+04	*9558
*9558	361	1	-9.18511E+02	*9559
*9559	362	1	-1.56290E+02	*9560
*9560	363	1	0.105740E+02	*9561
*9561	364	1	-1.10634E+01	*9562
*9562	367	1	-8.04513E+06	*9563
*9563	368	1	-5.32051E+05	*9564
*9564	369	1	-1.87041E+04	*9565
*9565	370	1	-3.64230E+03	*9566
*9566	371	1	0.204481E+03	*9567
*9567	372	1	-1.11039E+03	*9568
*9568	373	1	0.574412E+01	*9569
*9569	375	1	-1.81739E+05	*9570
*9570	376	1	0.814804E+04	*9571
*9571	377	1	0.725627E+02	*9572
*9572	378	1	0.203894E+03	*9573

*9541	379	1	0.126076E+02	*9542
*9542	380	1	-2.61081E+01	*9543
*9543	381	1	0.555171E+00	*9544
*9544	382	1	0.415987E+02	*9545
*9545	383	1	0.517604E-02	*9546
*9546	384	1	0.106276E+05	*9547
*9547	385	1	-2.26352E+02	*9548
*9548	386	1	0.519700E+02	*9549
*9549	387	1	0.257476E+00	*9550
*9550	388	1	0.673053E+00	*9551
*9551	389	1	-7.84298E+01	*9552
*9552	406	1	0.131935E+05	*9553
*9553	407	5	0.195301E+08	
DMIG	*VTAIL	408	1	*9557
*9557	357	1	0.744264E+03	*9558
*9558	358	1	0.120044E+03	*9559
*9559	359	1	-4.13376E+03	*9560
*9560	360	1	-8.77589E+02	*9561
*9561	361	1	-1.70800E+02	*9562
*9562	362	1	0.198980E+01	*9563
*9563	363	1	-1.04387E+00	*9564
*9564	364	1	-8.08958E-01	*9565
*9565	367	1	0.327369E+02	*9566
*9566	368	1	-1.94405E+03	*9567
*9567	369	1	-1.47636E+03	*9568
*9568	370	1	-1.01680E+02	*9569
*9569	371	1	0.196498E+01	*9570
*9570	372	1	-1.74749E+00	*9571
*9571	373	1	-2.14697E-01	*9572
*9572	375	1	0.211004E+06	*9573
*9573	376	1	-2.16175E+04	*9574
*9574	377	1	-1.05689E+03	*9575
*9575	378	1	0.195862E+01	*9576
*9576	379	1	0.165511E+01	*9577
*9577	380	1	0.449577E-01	*9578
*9578	381	1	-1.11710E-01	*9579
*9579	382	1	0.133726E-03	*9580
*9580	383	1	-1.21212E-03	*9581
*9581	384	1	0.418267E+05	*9582
*9582	385	1	0.214221E+03	*9583
*9583	386	1	-4.45492E+02	*9584
*9584	387	1	0.145153E+02	*9585
*9585	388	1	-1.44600E+01	*9586
*9586	389	1	-4.42150E+03	*9587
*9587	406	5	-3.61694E+06	*9588
*9588	407	1	-5.65555E+03	*9589
*9589	408	1	0.834648E+02	*9590
*9590	409	1	0.109547E+06	
DMIG	*VTAIL	409	1	*9594
*9594	357	1	-2.62206E+05	*9595
*9595	358	1	-1.03588E+04	*9596
*9596	359	1	0.214164E+04	*9597
*9597	360	1	0.293531E+03	*9598
*9598	361	1	0.269486E+02	*9599
*9599	362	1	-2.42846E+01	*9600
*9600	363	1	0.525678E-01	*9601
*9601	364	1	0.172746E+00	*9602
*9602	367	1	0.323348E+04	*9603
*9603	368	1	0.215706E+04	*9604
*9604	369	1	0.503979E+03	*9605
*9605	370	1	0.246870E+02	*9606
*9606	371	1	-2.55133E+01	*9607
*9607	372	1	0.824261E+00	*9608
*9608	373	1	0.127325E-01	*9609
*9609	375	1	-4.58756E+05	*9610
*9610	376	1	0.207304E+03	*9611
*9611	377	1	0.280582E+02	*9612
*9612	378	1	-2.03789E+02	*9613
*9613	379	1	-3.39806E+01	*9614
*9614	380	1	-1.20555E+00	*9615
*9615	381	1	0.420144E-01	*9616
*9616	382	1	0.823926E-04	*9617
*9617	383	1	0.414972E-03	*9618
*9618	384	1	0.520328E+05	*9619
*9619	385	1	0.124228E+01	*9620
*9620	386	1	-1.78476E+01	
*9621	387	1	-7.85608E+00	*9621
*9622	388	1	0.666356E-01	*9622
*9623	389	1	0.239304E+02	*9623
*9624	406	1	-4.02560E+05	*9624
*9625	407	5	0.438355E+05	*9625
*9626	408	1	0.785184E+04	*9626
*9627	409	1	0.172562E+04	*9627
*9628	409	5	0.179613E+06	*9628
*9629	409	1	0.431661E+05	*9629
DMIG	*VTAIL	409	5	*9621
*9621	357	1	-1.08056E+06	*9622
*9622	358	1	-3.69272E+04	*9623
*9623	359	1	-1.68866E+05	*9624
*9624	360	1	-2.36393E+04	*9625
*9625	361	1	-2.29630E+03	*9626
*9626	362	1	0.221145E+02	*9627
*9627	363	1	-7.44120E+00	*9628
*9628	364	1	-1.45670E+01	*9629
*9629	367	1	-6.15575E+04	*9630
*9630	368	1	-1.53980E+05	*9631
*9631	369	1	-3.92419E+04	*9632
*9632	370	1	-1.82427E+03	*9633
*9633	371	1	0.179957E+02	*9634
*9634	372	1	-3.76324E+01	*9635
*9635	373	1	-2.41942E+00	*9636
*9636	375	1	-1.45521E+06	*9637
*9637	376	1	-1.94645E+04	*9638
*9638	377	1	-8.13680E+03	*9639
*9639	378	1	0.145115E+03	*9640
*9640	379	1	0.267615E+02	*9641
*9641	380	1	0.128482E+01	*9642
*9642	381	1	-4.54159E+00	*9643
*9643	382	1	-3.34713E-02	*9644
*9644	383	1	-4.17601E-02	*9645
*9645	384	1	-1.84205E+06	*9646
*9646	385	1	-5.95504E+02	*9647
*9647	386	1	0.172236E+02	*9648
*9648	387	1	0.503546E+01	*9649



*9649	388	1	-432899E+00	
*9650	389	1	-153385E+03	
*9651	406	1	0.258026E+06	
*9652	407	5	0.882856E+05	
*9653	407	1	0.627816E+05	
*9654	408	1	-110606E+05	
*9655	409	5	0.437083E+07	
EIGR	1	MSGIV	0.	30.
*EIG1	MAX			
GRID	1	5	-136.6059.331	.000 0
GRID	2	5	-131.7509.602	.000 0
GRID	3	5	-100.75011.331	.000 0
GRID	4	5	-75.750 12.725	.000 0
GRID	5	5	-40.750 14.678	.000 0
GRID	6	5	0.000 17.047	.000 0
GRID	7	5	24.947 18.341	.000 0
GRID	8	5	-141.0943.076	.000 0
GRID	10	5	-170.615-371.062	.000 5
GRID	11	0	-100.7503.353	.000 0
GRID	12	5	-145.429-352.988	.000 5
GRID	13	0	-75.750 3.524	.000 0
GRID	14	5	-125.118-338.412	.000 5
GRID	15	0	-40.750 3.763	.000 0
GRID	16	5	-96.682 -318.006	.000 5
GRID	17	0	0.000 4.054	.000 0
GRID	18	5	-63.574 -294.247	.000 5
GRID	19	0	14.758 4.143	.000 0
GRID	20	0	-180.000-381.378	.000 0
GRID	21	0	-168.385-374.169	.000 1
GRID	22	0	-157.000-366.154	.000 0
GRID	23	0	-147.640-359.565	.000 0
GRID	24	0	-143.035-356.324	.000 1
GRID	25	0	-139.738-354.003	.000 0
GRID	26	0	-122.591-341.932	.000 1
GRID	27	0	-120.000-340.108	.000 0
GRID	28	0	-93.970 -321.785	.000 1
GRID	29	0	-86.000 -316.174	.000 0
GRID	30	0	-60.647 -298.327	.000 1
GRID	31	0	-41.500 -293.800	.000 0
GRID	32	0	-54.216 -293.800	.000 0
GRID	33	0	-41.500 -293.800	.000 0
GRID	34	0	-25.500 -293.800	.000 0
GRID	35	0	-25.500 -293.800	.000 0
GRID	36	0	.000 -293.80	.000 0
GRID	37	0	-41.500 -308.500	.000 0
GRID	38	0	-54.216 -310.784	.000 0
GRID	39	0	-41.500 -308.500	.000 0
GRID	40	0	-25.500 -308.500	.000 0
GRID	41	0	-25.500 -308.500	.000 0
GRID	42	0	.000 -308.50	.000 0
GRID	44	0	-86.000 -332.494	.000 0
GRID	45	0	-41.500 -324.500	.000 0
GRID	46	0	-54.216 -326.784	.000 0
GRID	47	0	-41.500 -324.500	.000 0
GRID	48	0	-25.500 -324.500	.000 0
GRID	49	0	-25.500 -324.500	.000 0
GRID	50	0	.000 -324.50	.000 0
GRID	51	0	-139.738-358.146	.000 0
GRID	52	0	-120.000-354.601	.000 0
GRID	53	0	-86.000 -348.494	.000 0
GRID	54	0	-41.500 -340.500	.000 0
GRID	55	0	-54.216 -342.784	.000 0
GRID	56	0	-41.500 -340.500	.000 0
GRID	57	0	-25.500 -340.500	.000 0
GRID	58	0	-25.500 -340.500	.000 0
GRID	59	0	.000 -340.50	.000 0
GRID	60	0	-168.385-379.292	.000 0
GRID	61	0	-157.000-377.247	.000 0
GRID	62	0	-139.738-374.146	.000 0
GRID	63	0	-131.000-372.576	.000 0
GRID	64	0	-120.000-370.601	.000 0
GRID	65	0	-86.000 -364.494	.000 0
GRID	66	0	-41.500 -356.500	.000 0
GRID	67	0	-54.216 -358.784	.000 0
GRID	68	0	-41.500 -356.500	.000 0
GRID	69	0	-25.500 -356.500	.000 0
GRID	70	0	-25.500 -356.500	.000 0
GRID	71	0	.000 -356.50	.000 0
GRID	72	0	-180.000-398.678	.000 0
GRID	73	0	-168.385-396.592	.000 0
GRID	74	0	-157.000-394.547	.000 0
GRID	75	0	-139.738-391.446	.000 0
GRID	76	0	-131.000-389.876	.000 7
GRID	77	0	-120.000-387.901	.000 0
GRID	78	0	-86.000 -381.794	.000 0
GRID	79	0	-29.250 -417.400	.000 0
GRID	80	0	-54.216 -376.084	.000 0
GRID	81	0	-41.500 -373.800	.000 7
GRID	82	0	-25.500 -373.800	.000 0
GRID	83	0	-25.500 -373.800	.000 0
GRID	84	0	.000 -373.80	.000 0
GRID	85	0	-180.000-406.675	.000 0
GRID	86	0	-168.385-406.191	.000 0
GRID	87	0	-157.000-405.717	.000 0
GRID	88	0	-139.738-404.997	.000 0
GRID	89	0	-139.738-393.695	.000 0
GRID	90	0	-130.626-392.267	.000 0
GRID	91	0	-111.224-389.227	.000 0
GRID	92	0	-85.970 -385.270	.000 0
GRID	93	0	-53.000 -380.104	.000 0
GRID	94	0	-29.250 -373.800	.000 0
GRID	95	0	-41.500 -378.302	.000 0
GRID	96	0	-139.738-397.461	.000 0
GRID	97	0	-129.992-396.307	.000 0
GRID	98	0	-110.476-393.998	.000 0
GRID	99	0	-85.073 -390.992	.000 0
GRID	100	0	-53.000 -387.196	.000 0
GRID	101	0	-41.500 -385.835	.000 0
GRID	102	0	-139.738-401.269	.000 0
GRID	103	0	-129.345-400.438	.000 0
GRID	104	0	-109.713-398.867	.000 0
GRID	105	0	-84.160 -396.823	.000 0
GRID	106	0	-53.000 -394.330	.000 0
GRID	107	0	-41.500 -393.410	.000 0

\*9650  
\*9651  
\*9652  
\*9653  
\*9654  
\*9655

+EIG1

GRID	108	0	-139.738-404.997	.000 0
GRID	109	0	-128.703-404.537	.000 0
GRID	110	0	-108.954-403.714	.000 0
GRID	111	0	-83.248 -402.642	.000 0
GRID	112	0	-53.000 -401.381	.000 0
GRID	113	0	-41.500 -400.902	.000 0
GRID	114	0	-41.500 -417.400	.000 0
GRID	115	0	-25.500 -417.400	.000 0
GRID	116	0	.000 -417.400	.000 0
GRID	117	0	.000 -417.40	.000 0
GRID	118	0	-39.431 -373.800	.000 0
GRID	119	0	-38.792 -377.878	.000 7
GRID	120	0	-32.600 -417.400	.000 0
GRID	121	0	-41.500 -373.800	.000 0
GRID	122	0	-120.926-390.747	.000 0
GRID	123	0	-101.524-387.707	.000 0
GRID	124	0	-70.415 -382.833	.000 0
GRID	125	0	-120.235-395.153	.000 0
GRID	126	0	-100.719-392.843	.000 0
GRID	127	0	-69.427 -389.140	.000 0
GRID	128	0	-119.530-399.653	.000 0
GRID	129	0	-99.898 -398.082	.000 0
GRID	130	0	-68.420 -395.564	.000 0
GRID	131	0	-118.830-404.125	.000 0
GRID	132	0	-99.081 -403.302	.000 0
GRID	133	0	-67.414 -401.982	.000 0
GRID	134	0	-139.738-394.695	.000 7
GRID	135	0	-130.473-393.243	.000 0
GRID	136	0	-120.773-391.723	.000 0
GRID	137	0	-111.071-390.203	.000 7
GRID	138	0	-101.371-388.683	.000 7
GRID	139	0	-85.817 -386.246	.000 7
GRID	140	0	-70.262 -383.809	.000 7
GRID	141	0	-53.000 -381.104	.000 7
GRID	142	0	-41.500 -379.302	.000 7
GRID	143	0	-180.000-389.378	.000 0
GRID	153	0	.000 -100.00	.000 0
GRID	154	0	.000 -160.00	.000 0
GRID	155	0	.000 -200.00	.000 0
GRID	156	0	.000 -252.50	.000 0
GRID	163	0	.000 -60.00	.000 0
GRID	164	0	.000 -78.80	.000 0
GRID	173	5	-116.25010.466	.000 0
GRID	174	5	-88.250 12.029	.000 0
GRID	175	5	-58.250 13.701	.000 0
GRID	176	5	-19.500 15.863	.000 0
GRID	177	5	-16.2503.247	.000 0
GRID	178	5	-88.250 3.438	.000 0
GRID	179	5	-58.250 3.643	.000 0
GRID	180	5	-19.500 3.908	.000 0
GRID	181	0	-71.000 -305.615	.000 0
GRID	182	0	-71.000 -313.799	.000 0
GRID	183	0	-71.000 -329.799	.000 0
GRID	184	0	-71.000 -345.799	.000 0
GRID	185	0	-71.000 -361.799	.000 0
GRID	186	0	-71.000 -379.099	.000 7
GRID	187	0	-102.000-327.437	.000 0
GRID	188	0	-102.000-335.367	.000 0
GRID	189	0	-102.000-351.367	.000 0
GRID	190	0	-102.000-367.367	.000 0
GRID	191	0	-102.000-384.667	.000 7
GRID	192	0	-131.000-347.852	.000 0
GRID	193	0	-131.000-356.576	.000 0
GRID	194	5	-131.7503.141	.000 0
GRID	195	0	.000 -385.600	.000 0
GRID	196	0	.000 -447.000	.000 0
GRID	233	0	-41.500 -497.5000.	.000 0
GRID	241	0	-31.810 -497.500.000	.000 0
GRID	242	0	-168.385-387.292	.000 0
GRID	243	0	-157.000-385.247	.000 0
GRID	244	0	-139.738-382.146	.000 0
GRID	245	0	-131.000-380.576	.000 0
GRID	251	0	-41.500 -463.0520.	.000 0
GRID	252	0	-67.903 -482.9730.	.000 0
GRID	253	0	-81.403 -493.1590.	.000 0
GRID	254	0	-92.653 -501.6460.	.000 0
GRID	255	0	-103.085-509.5170.	.000 0
GRID	256	0	-110.127-514.8300.	.000 0
GRID	257	0	-57.952 -504.9420.	.000 0
GRID	258	0	-72.299 -513.2610.	.000 0
GRID	259	0	-84.253 -520.1930.	.000 0
GRID	260	0	-95.338 -526.6210.	.000 0
GRID	261	0	-110.127-535.1970.	.000 0
GRID	262	0	-41.500 -541.2650.	.000 0
GRID	263	0	-59.060 -542.4880.	.000 0
GRID	264	0	-73.693 -543.5080.	.000 0
GRID	265	0	-87.261 -544.4530.	.000 0
GRID	266	0	-102.862-545.5400.	.000 0
GRID	267	0	.000 -153.25	.000 0
GRID	268	0	.000 -276.42	.000 0
GRID	271	0	-36.000 -469.194	.000 0
GRID	272	0	-36.000 -497.500	.000 0
GRID	273	0	-29.250 -497.500	.000 0
GRID	274	0	-40.750 -497.500	.000 0
GRID	275	0	-40.750 -479.550	.000 0
GRID	276	0	-29.250 -479.550	.000 0
GRID	277	0	-29.250 -479.550	.000 0
GRID	278	0	-40.750 -469.194	.000 0
GRID	279	0	-29.250 -469.194	.000 0
GRID	280	0	-40.750 -462.820	.000 0
GRID	281	0	.000 -479.55	.000 0
GRID	282	0	.000 -462.82	.000 0
GRID	283	0	.000 -446.10	.000 0
GRID	284	0	.000 -447.00	.000 0
GRID	285	0	.000 -424.00	.000 0
GRID	286	0	.000 -403.00	.000 0
GRID	290	0	-29.250 -462.820	.000 0
GRID	291	0	-29.250 -462.820	.000 0
GRID	292	0	-40.750 -446.100	.000 0
GRID	293	0	-29.250 -446.100	.000 0
GRID	294	0	-29.250 -446.100	.000 0
GRID	295	0	-19.000 -446.100	.000 0
GRID	296	0	.000 -426.400	.000 0
GRID	298	0	.000 -385.60	.000 0



GRID	299	0	-33.570	-497.500.000	0
GRID	300	0	-19.000	-417.400.000	0
GRID	357	0	.0000	-452.61825.500	0
GRID	358	0	.0000	-469.42445.000	0
GRID	359	0	.0000	-484.34962.317	0
GRID	360	0	.0000	-501.18481.850	0
GRID	361	0	.0000	-518.008101.371	0
GRID	362	0	.0000	-527.582112.479	0
GRID	363	0	.0000	-534.495120.500	0
GRID	364	0	.0000	-538.374125.000	0
GRID	367	0	.0000	-446.10044.849	0
GRID	368	0	.0000	-472.31270.354	0
GRID	369	0	.0000	-491.06888.605	0
GRID	370	0	.0000	-509.812106.844	0
GRID	371	0	.0000	-520.479117.222	0
GRID	372	0	.0000	-523.847120.500	0
GRID	373	0	.0000	-528.472125.000	0
GRID	375	0	.0000	-492.59445.000	0
GRID	376	0	.0000	-498.20753.064	0
GRID	377	0	.0000	-512.83174.074	0
GRID	378	0	.0000	-527.44695.070	0
GRID	379	0	.0000	-535.762107.018	0
GRID	380	0	.0000	-545.147120.500	0
GRID	381	0	.0000	-548.279125.000	0
GRID	382	0	.0000	-560.736120.500	0
GRID	383	0	.0000	-563.088125.000	0
GRID	384	0	.0000	-498.05345.000	0
GRID	385	0	.0000	-516.03771.933	0
GRID	386	0	.0000	-530.24093.204	0
GRID	387	0	.0000	-538.321105.309	0
GRID	388	0	.0000	-548.465120.500	0
GRID	389	0	.0000	-521.28945.000	0
GRID	390	0	.0000	-530.36862.367	0
GRID	391	0	.0000	-542.27685.168	0
GRID	392	0	.0000	-549.05598.142	0
GRID	393	0	.0000	-560.736120.500	0
GRID	405	0	.0000	-500.00.000	0
GRID	406	0	.0000	-498.24941.224	0
GRID	407	0	.0000	-446.10025.500	0
GRID	408	0	.0000	-509.89233.450	0
GRID	409	0	.0000	-479.02125.500	0
GRID	410	0	.0000	-426.40.000	0
GRID	431	0	.0000	-351.70.000	0
GRID	437	0	.0000	-325.40.000	0
GRID	458	0	.0000	-266.92.000	0
GRID	459	0	.0000	-274.55.000	0
GRID	464	0	-29.250	-492.500.000	0
GRID	465	0	-40.750	-492.500.000	0
GRID	466	0	-29.250	-502.250.000	0
GRID	467	0	-40.750	-502.250.000	0
GRID	501	0	-54.702	-473.0130.	0
GRID	502	0	-74.653	-488.0660.	0
GRID	503	0	-87.028	-497.4020.	0
GRID	504	0	-97.869	-505.5820.	0
GRID	505	0	-106.606	-512.1740.	0
GRID	506	0	-41.5	-480.2760.	0
GRID	507	0	-62.928	-493.9580.	0
GRID	508	0	-76.851	-503.2100.	0
GRID	509	0	-88.453	-510.9200.	0
GRID	510	0	-99.212	-518.0690.	0
GRID	511	0	-110.127	-525.0140.	0
GRID	512	0	-49.726	-501.2210.	0
GRID	513	0	-65.126	-509.1020.	0
GRID	514	0	-78.276	-516.7270.	0
GRID	515	0	-89.796	-523.4070.	0
GRID	516	0	-102.733	-530.9080.	0
GRID	517	0	-41.5	-519.3830.	0
GRID	518	0	-49.726	-523.1040.	0
GRID	519	0	-65.680	-527.8750.	0
GRID	520	0	-78.973	-531.8050.	0
GRID	521	0	-91.3	-535.5370.	0
GRID	522	0	-106.495	-540.3680.	0
GRID	523	0	-50.28	-541.8760.	0
GRID	524	0	-66.376	-542.9980.	0
GRID	525	0	-80.477	-544.0080.	0
GRID	526	0	-95.062	-544.9960.	0
GRID	701	3	0.	0.	0
GRID	702	3	100.	0.	0
GRID	703	3	0.	0.	-100.
GRID	1001	5	-136.6059.331	.355	0
GRID	1002	5	-131.7509.602	.382	0
GRID	1003	5	-100.75011.331	.560	0
GRID	1004	5	-75.750	12.725	.700
GRID	1005	5	-40.750	14.678	.895
GRID	1006	5	0.000	17.047	1.115
GRID	1007	5	24.947	18.341	1.245
GRID	1008	5	-141.0943.076	.845	0
GRID	1010	5	-100.7503.353	1.150	0
GRID	1012	5	-75.750	3.524	1.410
GRID	1014	5	-40.750	3.763	1.765
GRID	1016	5	0.000	4.054	2.190
GRID	1018	5	14.758	4.143	2.080
GRID	1019	0	-180.000	-381.378.790	0
GRID	1020	0	-168.385	-374.169.965	1
GRID	1021	0	-157.000	-366.1541.156	0
GRID	1022	0	-147.640	-359.5651.284	0
GRID	1023	0	-143.035	-356.3241.358	1
GRID	1024	0	-139.738	-354.0031.400	0
GRID	1025	0	-122.591	-341.9321.635	1
GRID	1026	0	-120.000	-340.1081.663	0
GRID	1027	0	-93.970	-321.7852.018	1
GRID	1029	0	-86.000	-316.1742.124	0
GRID	1030	0	-60.647	-298.3272.534	1
GRID	1031	0	-41.500	-293.8004.750	0
GRID	1032	0	-54.216	-293.8002.600	0
GRID	1033	0	-41.500	-293.8003.209	0
GRID	1034	0	-25.500	-293.8009.850	0
GRID	1037	0	-41.500	-308.5005.350	0
GRID	1038	0	-54.216	-310.7842.852	0
GRID	1039	0	-41.500	-308.5003.166	0
GRID	1040	0	-25.500	-308.50010.350	0
GRID	1044	0	-86.000	-332.4942.350	0
GRID	1045	0	-41.500	-324.5005.450	0
GRID	1046	0	-54.216	-326.7842.750	0

GRID	1047	0	-41.500	-324.5002.944	0
GRID	1048	0	-25.500	-324.50010.350	0
GRID	1051	0	-139.738	-358.1461.446	0
GRID	1052	0	-120.000	-354.6011.763	0
GRID	1053	0	-86.000	-348.4942.112	0
GRID	1054	0	-41.500	-340.5005.450	0
GRID	1055	0	-54.216	-342.7842.426	0
GRID	1056	0	-41.500	-340.5002.598	0
GRID	1057	0	-25.500	-340.50010.750	0
GRID	1060	0	-168.385	-379.292.984	0
GRID	1061	0	-157.000	-377.2471.108	0
GRID	1062	0	-139.738	-374.1461.256	0
GRID	1063	0	-131.000	-372.5761.328	0
GRID	1064	0	-120.000	-370.6011.418	0
GRID	1065	0	-86.000	-364.4941.676	0
GRID	1066	0	-41.500	-356.5005.800	0
GRID	1067	0	-54.216	-358.7841.908	0
GRID	1068	0	-41.500	-356.5002.028	0
GRID	1069	0	-25.500	-356.50010.950	0
GRID	1072	0	-180.000	-398.678.330	0
GRID	1073	0	-168.385	-396.592.415	0
GRID	1074	0	-157.000	-394.547.508	0
GRID	1075	0	-139.738	-391.446.645	0
GRID	1076	0	-131.000	-389.876.706	7
GRID	1077	0	-120.000	-387.901.796	0
GRID	1078	0	-86.000	-381.7941.039	0
GRID	1079	0	-29.250	-417.4009.000	0
GRID	1080	0	-54.216	-376.0841.264	0
GRID	1081	0	-41.500	-373.8001.364	7
GRID	1082	0	-25.500	-373.80011.100	0
GRID	1085	0	-180.000	-406.675.075	0
GRID	1086	0	-168.385	-406.191.090	0
GRID	1087	0	-157.000	-405.717.115	0
GRID	1088	0	-139.738	-404.997.145	0
GRID	1094	0	-29.250	-373.8009.000	0
GRID	1096	0	-139.738	-397.461.429	0
GRID	1097	0	-129.992	-396.307.471	0
GRID	1098	0	-110.476	-393.998.557	0
GRID	1099	0	-85.073	-390.992.669	0
GRID	1100	0	-53.000	-387.196.810	0
GRID	1101	0	-41.500	-385.8352.659	0
GRID	1102	0	-139.738	-401.269.288	0
GRID	1103	0	-129.345	-400.438.318	0
GRID	1104	0	-109.713	-398.867.377	0
GRID	1105	0	-84.160	-396.823.453	0
GRID	1106	0	-53.000	-394.330.545	0
GRID	1107	0	-41.500	-393.4101.787	0
GRID	1108	0	-139.738	-404.997.150	0
GRID	1109	0	-128.703	-404.537.167	0
GRID	1110	0	-108.954	-403.714.198	0
GRID	1111	0	-83.248	-402.642.238	0
GRID	1112	0	-53.000	-401.381.285	0
GRID	1113	0	-41.500	-400.902.925	0
GRID	1114	0	-41.500	-417.4009.000	0
GRID	1121	0	-41.500	-373.8005.850	0
GRID	1125	0	-120.235	-395.153.514	0
GRID	1126	0	-100.719	-392.843.669	0
GRID	1127	0	-69.427	-389.140.737	0
GRID	1128	0	-119.530	-399.653.348	0
GRID	1129	0	-99.898	-398.082.406	0
GRID	1130	0	-68.420	-395.564.500	0
GRID	1131	0	-118.830	-404.125.182	0
GRID	1132	0	-99.081	-403.302.213	0
GRID	1133	0	-67.414	-401.982.263	0
GRID	1134	0	-139.738	-394.695.531	7
GRID	1135	0	-130.473	-393.243.585	7
GRID	1136	0	-120.773	-391.723.641	7
GRID	1137	0	-111.071	-390.203.697	7
GRID	1138	0	-101.371	-388.683.754	7
GRID	1139	0	-85.817	-386.246.844	7
GRID	1140	0	-70.262	-383.809.934	7
GRID	1141	0	-53.000	-381.1041.050	7
GRID	1142	0	-41.500	-379.3023.412	7
GRID	1143	0	-180.000	-389.378.675	0
GRID	1173	5	-116.25010.466	.453	0
GRID	1174	5	-88.250	12.029	.640
GRID	1175	5	-58.250	13.701	.795
GRID	1176	5	-19.500	15.863	1.015
GRID	1177	5	-116.2503.247	.990	0
GRID	1178	5	-88.250	3.438	1.303
GRID	1179	5	-58.250	3.643	1.590
GRID	1180	5	-19.500	3.908	1.980
GRID	1181	0	-71.000	-305.6152.359	0
GRID	1182	0	-71.000	-313.7992.486	0
GRID	1183	0	-71.000	-329.7992.524	0
GRID	1184	0	-71.000	-345.7992.242	0
GRID	1185	0	-71.000	-361.7991.776	0
GRID	1186	0	-71.000	-379.0991.138	7
GRID	1187	0	-102.000	-327.4371.904	0
GRID	1188	0	-102.000	-335.3672.032	0
GRID	1189	0	-102.000	-351.3671.954	0
GRID	1190	0	-102.000	-367.3671.559	0
GRID	1191	0	-102.000	-384.667.924	7
GRID	1192	0	-131.000	-347.0521.517	0
GRID	1193	0	-131.000	-356.5761.617	0
GRID	1194	5	-131.7503.141	.875	0
GRID	1233	0	-41.500	-497.5002.79	



GRID	1264	0	-73.693	-543.508.531	0
GRID	1265	0	-87.261	-544.453.399	0
GRID	1266	0	-102.862	-545.540.248	0
GRID	1275	0	-40.750	-479.5505.000	0
GRID	1276	0	-29.250	-479.5506.150	0
GRID	1280	0	-40.750	-462.8205.500	0
GRID	1290	0	-29.250	-462.8207.000	0
GRID	1292	0	-40.750	-446.1005.650	0
GRID	1293	0	-29.250	-446.1007.000	0
GRID	1464	0	-29.250	-492.5004.500	0
GRID	1465	0	-40.750	-492.5004.750	0
GRID	1466	0	-29.250	-502.2503.000	0
GRID	1467	0	-40.750	-502.2504.250	0
GRID	1501	0	-54.702	-473.0130.868	0
GRID	1502	0	-74.653	-488.0660.638	0
GRID	1503	0	-87.028	-497.4020.495	0
GRID	1504	0	-97.869	-505.5820.370	0
GRID	1505	0	-106.606	-512.1740.268	0
GRID	1506	0	-41.5	-480.2761.906	0
GRID	1507	0	-62.928	-493.9581.610	0
GRID	1508	0	-76.851	-503.2101.180	0
GRID	1509	0	-88.453	-510.9200.934	0
GRID	1510	0	-99.212	-518.0690.700	0
GRID	1511	0	-110.127	-525.0140.417	0
GRID	1512	0	-49.726	-501.2212.646	0
GRID	1513	0	-65.126	-509.1022.152	0
GRID	1514	0	-78.276	-516.7271.619	0
GRID	1515	0	-89.796	-523.4071.264	0
GRID	1516	0	-102.733	-530.9090.848	0
GRID	1517	0	-41.5	-519.3831.812	0
GRID	1518	0	-49.726	-523.1041.668	0
GRID	1519	0	-65.680	-527.8751.236	0
GRID	1520	0	-78.973	-531.8050.984	0
GRID	1521	0	-91.3	-535.5370.745	0
GRID	1522	0	-106.495	-540.3680.427	0
GRID	1523	0	-50.28	-541.8760.752	0
GRID	1524	0	-66.376	-542.9980.600	0
GRID	1525	0	-80.477	-544.0080.465	0
GRID	1526	0	-95.062	-544.9960.324	0
GRID	2001	5	-136.6059.331	-3.355	0
GRID	2002	5	-131.7509.602	-3.382	0
GRID	2003	5	-100.75011.331	-5.60	0
GRID	2004	5	-75.750	12.725	-7.00
GRID	2005	5	-40.750	14.678	-8.95
GRID	2006	5	0.000	17.047	-1.115
GRID	2007	5	24.947	18.341	-1.245
GRID	2008	5	-141.0943.076	-8.845	0
GRID	2010	5	-100.7503.353	-1.150	0
GRID	2012	5	-75.750	3.524	-1.410
GRID	2014	5	-40.750	3.763	-1.765
GRID	2016	5	0.000	4.054	-2.190
GRID	2018	5	14.758	4.143	-2.080
GRID	2019	0	-180.000-381.378	-790	0
GRID	2020	0	-168.385-374.169	-965	1
GRID	2021	0	-157.000-366.154	-1.156	0
GRID	2022	0	-147.640-359.565	-1.284	0
GRID	2023	0	-143.035-356.324	-1.358	1
GRID	2024	0	-139.738-354.003	-1.400	0
GRID	2025	0	-122.591-341.932	-1.635	1
GRID	2026	0	-120.000-340.108	-1.663	0
GRID	2027	0	-93.970	-321.785-2.018	1
GRID	2029	0	-86.000	-316.174-2.124	0
GRID	2030	0	-60.647	-298.327-2.534	1
GRID	2031	0	-41.500	-293.800-4.750	0
GRID	2032	0	-54.216	-293.800-2.600	0
GRID	2033	0	-41.500	-293.800-1.209	0
GRID	2034	0	-25.500	-293.800-9.850	0
GRID	2037	0	-41.500	-308.500-5.350	0
GRID	2038	0	-54.216	-310.784-2.852	0
GRID	2039	0	-41.500	-308.500-3.166	0
GRID	2040	0	-25.500	-308.500-10.350	0
GRID	2044	0	-86.000	-332.494-2.350	0
GRID	2045	0	-41.500	-324.500-5.450	0
GRID	2046	0	-54.216	-326.784-2.750	0
GRID	2047	0	-41.500	-324.500-2.944	0
GRID	2048	0	-25.500	-324.500-10.350	0
GRID	2051	0	-139.738-358.146	-1.446	0
GRID	2052	0	-120.000-354.601	-1.763	0
GRID	2053	0	-86.000	-349.494-2.112	0
GRID	2054	0	-41.500	-340.500-5.450	0
GRID	2055	0	-54.216	-342.784-2.426	0
GRID	2056	0	-41.500	-340.500-2.598	0
GRID	2057	0	-25.500	-340.500-10.750	0
GRID	2060	0	-168.385-379.292	-984	0
GRID	2061	0	-157.000-377.247	-1.108	0
GRID	2062	0	-139.738-374.146	-1.256	0
GRID	2063	0	-131.000-372.576	-1.328	0
GRID	2064	0	-120.000-370.601	-1.418	0
GRID	2065	0	-86.000	-364.494-1.676	0
GRID	2066	0	-41.500	-356.500-5.800	0
GRID	2067	0	-54.216	-358.784-1.908	0
GRID	2068	0	-41.500	-356.500-2.028	0
GRID	2069	0	-25.500	-356.500-10.950	0
GRID	2072	0	-180.000-398.678	-330	0
GRID	2073	0	-168.385-396.592	-415	0
GRID	2074	0	-157.000-394.547	-508	0
GRID	2075	0	-139.738-391.446	-645	0
GRID	2076	0	-131.000-389.876	-706	7
GRID	2077	0	-120.000-387.901	-796	0
GRID	2078	0	-86.000	-381.794-1.039	0
GRID	2079	0	-29.250	-417.400-9.000	0
GRID	2080	0	-54.216	-376.084-1.264	0
GRID	2081	0	-41.500	-373.800-1.364	7
GRID	2082	0	-25.500	-373.800-11.100	0
GRID	2085	0	-180.000-406.675	-075	0
GRID	2086	0	-168.385-406.191	-090	0
GRID	2087	0	-157.000-405.717	-115	0
GRID	2088	0	-139.738-404.997	-145	0
GRID	2094	0	-29.250	-373.800-9.000	0
GRID	2096	0	-139.738-397.461	-429	0
GRID	2097	0	-129.992-396.307	-471	0
GRID	2098	0	-110.476-393.998	-557	0
GRID	2099	0	-85.073	-390.992	-669
GRID	2100	0	-53.000	-387.196	-810

GRID	2101	0	-41.500	-385.835-2.659	0
GRID	2102	0	-139.738-401.269	-288	0
GRID	2103	0	-129.345-400.438	-318	0
GRID	2104	0	-109.713-398.867	-377	0
GRID	2105	0	-84.140	-396.823	-453
GRID	2106	0	-53.000	-394.330	-545
GRID	2107	0	-41.500	-393.410	-1.787
GRID	2108	0	-139.738-404.997	-150	0
GRID	2109	0	-128.703-404.537	-167	0
GRID	2110	0	-108.954-403.714	-198	0
GRID	2111	0	-83.248	-402.642	-238
GRID	2112	0	-53.000	-401.381	-285
GRID	2113	0	-41.500	-400.902	-925
GRID	2114	0	-41.500	-417.400	-9.000
GRID	2121	0	-41.500	-373.800	-5.850
GRID	2125	0	-120.235-395.153	-514	0
GRID	2126	0	-100.719-392.843	-669	0
GRID	2127	0	-69.427	-389.140	-737
GRID	2128	0	-119.530-399.653	-348	0
GRID	2129	0	-99.898	-398.082	-406
GRID	2130	0	-68.420	-395.564	-500
GRID	2131	0	-118.830-404.125	-182	0
GRID	2132	0	-99.081	-403.302	-213
GRID	2133	0	-67.414	-401.982	-263
GRID	2134	0	-139.738-394.695	-531	7
GRID	2135	0	-130.473-393.243	-585	7
GRID	2136	0	-120.773-391.723	-641	7
GRID	2137	0	-111.071-390.203	-697	7
GRID	2138	0	-101.371-388.683	-754	7
GRID	2139	0	-85.817	-386.246	-844
GRID	2140	0	-70.262	-383.809	-934
GRID	2141	0	-53.000	-381.104	-1.050
GRID	2142	0	-41.500	-379.302	-3.412
GRID	2143	0	-180.000-389.378	-675	0
GRID	2173	5	-116.25010.466	-453	0
GRID	2174	5	-88.250	12.029	-640
GRID	2175	5	-58.250	13.701	-795
GRID	2176	5	-19.500	15.863	-1.015
GRID	2177	5	-116.2503.247	-990	0
GRID	2178	5	-88.250	3.438	-1.303
GRID	2179	5	-58.250	3.643	-1.590
GRID	2180	5	-19.500	3.908	-1.980
GRID	2181	0	-71.000	-305.615	-2.359
GRID	2182	0	-71.000	-313.799	-2.486
GRID	2183	0	-71.000	-329.799	-2.524
GRID	2184	0	-71.000	-345.799	-2.242
GRID	2185	0	-71.000	-361.799	-1.776
GRID	2186	0	-71.000	-379.099	-1.138
GRID	2187	0	-102.000-327.437	-1.904	0
GRID	2188	0	-102.000-335.367	-2.032	0
GRID	2189	0	-102.000-351.367	-1.954	0
GRID	2190	0	-102.000-367.367	-1.559	0
GRID	2191	0	-102.000-384.667	-924	7
GRID	2192	0	-131.000-347.852	-1.517	0
GRID	2193	0	-131.000-356.576	-1.617	0
GRID	2194	5	-131.7503.141	-875	0
GRID	2233	0	-41.500	-497.500	-2.790
GRID	2242	0	-168.385-387.292	-764	0
GRID	2243	0	-157.000-385.247	-862	0
GRID	2244	0	-139.738-382.146	-1.004	0
GRID	2245	0	-131.000-380.576	-1.080	0
GRID	2251	0	-41.500	-463.052	-1.021
GRID	2252	0	-67.903	-482.973	-716
GRID	2253	0	-81.403	-493.159	-560
GRID	2254	0	-92.653	-501.646	-430
GRID	2255	0	-103.085	-509.517	-309
GRID	2256	0	-110.127	-514.830	-228
GRID	2257	0	-57.952	-504.942	-2.503
GRID	2258	0	-72.299	-513.261	-1.801
GRID	2259	0	-84.253	-520.193	-1.437
GRID	2260	0	-95.338	-526.621	-1.091
GRID	2261	0	-110.127	-535.197	-606
GRID	2262	0	-41.500	-541.265	-833
GRID	2263	0	-59.060	-542.488	-670
GRID	2264	0	-73.693	-543.508	-531
GRID	2265	0	-87.261	-544.453	-399
GRID	2266	0	-102.862	-545.540	-248
GRID	2275	0	-40.750	-479.550	-5.000
GRID	2276	0	-29.250	-479.550	-6.150
GRID	2280	0	-40.750	-462.820	-5.500
GRID	2290	0	-29.250	-462.820	-7.000
GRID	2292	0	-40.750	-446.100	-5.650
GRID	2293	0	-29.250	-446.100	-7.000
GRID	2464	0	-29.250	-492.500	-4.500
GRID	2465	0	-40.750	-492.500	-4.750
GRID	2466	0	-29.250	-502.250	-3.000
GRID	2467	0	-40.750	-502.250	-4.250
GRID	2501	0	-54.702	-473.013	-0.868
GRID	2502	0	-74.653	-488.066	-0.638
GRID	2503	0	-87.028	-497.402	-0.495
GRID	2504	0	-97.869	-505.582	-0.370
GRID	2505	0	-106.606	-512.174	-0.268
GRID	2507	0	-41.5	-480.276	



GRID	3017	0	-182.88	-319.4	0.	0
GRID	3018	0	-182.88	-346.1950	0.	0
GRID	3019	0	-182.88	-376.6750	0.	0
GRID	3020	0	-182.88	-381.3780	0.	0
GRID	3021	0	-182.88	-391.3910	0.	0
GRID	3022	0	-182.88	-400.6450	0.	0
GRID	3046	0	-157.0	-375.37	0.	0
GRID	3047	0	-157.0	-371.56	0.	0
GRID	3048	0	-157.0	-381.56	0.	0
GRID	3049	0	-157.0	-375.37	-10.0	0
GRID	3050	0	-157.0	-337.58	-12.0	0
GRID	3051	0	-157.0	-368.06	-12.0	0
GRID	3053	0	-157.0	-371.56	-12.0	0
GRID	3054	0	-157.0	-375.37	-12.0	0
GRID	3055	0	-157.0	-381.56	-12.0	0
GRID	3057	0	-157.0	-391.89	-12.0	0
GRID	3058	0	-157.0	-293.8	-17.5	0
GRID	3059	0	-157.0	-337.58	-17.5	0
GRID	3060	0	-157.0	-353.19	-17.5	0
GRID	3061	0	-157.0	-368.06	-17.5	0
GRID	3062	0	-157.0	-391.89	-17.5	0
GRID	3063	0	-158.1	-371.56	-12.0	0
GRID	3064	0	-158.1	-381.56	-12.0	0
GRID	3065	0	-158.1	-371.56	0.	0
GRID	3066	0	-158.1	-381.56	0.	0
GRID	3067	0	-155.9	-371.56	-12.0	0
GRID	3068	0	-155.9	-381.56	-12.0	0
GRID	3069	0	-155.9	-371.56	0.	0
GRID	3070	0	-155.9	-381.56	0.	0
GRID	3196	0	-79.0	-315.2360	0.	0
GRID	3197	0	-63.0	-312.3620	0.	0
GRID	3198	0	-79.0	-331.2360	0.	0
GRID	3199	0	-63.0	-328.3620	0.	0
GRID	3200	0	-79.0	-316.87	0.	0
GRID	3201	0	-71.0	-316.87	0.	0
GRID	3202	0	-63.0	-316.87	0.	0
GRID	3203	0	-71.0	-316.87	0.	0
GRID	3204	0	-71.0	-325.4	0.	0
GRID	3205	0	-71.0	-377.3	0.	0
GRID	3206	0	-71.0	-325.4	-10.0	0
GRID	3207	0	-71.0	-325.4	-17.5	0
GRID	3208	0	-71.0	-312.6	-17.5	0
GRID	3209	0	-71.0	-312.6	-17.5	0
GRID	3210	0	-71.0	-200.0	-30.5	0
GRID	3211	0	-71.0	-302.58	-30.5	0
GRID	3212	0	-71.0	-312.6	-30.5	0
GRID	3213	0	-71.0	-340.5	-30.5	0
GRID	3500	0	-120.	-335.09	-25.	0
GRID	3501	0	-120.	-346.07	-11.20	0
MAT1	1	10.5E6	5.52E6			
MAT1	2	10.5E6	4.08E			
MAT1	3	999999E	999999E			
MAT1	4	10.5E6	999999E			
MAT1	5	10.5E6	4.400E6			
MAT1	601	3.150E6	4.400E6			
MAT1	606	6.825E6	4.400E6			
MAT2	701	8681000.2159000.	-78300.7164000.	-78300.2558000.		
MAT2	702	7047000.2537000.	-160600.8488000.	-160600.2700000.		
MAT2	703	6618000.2464000.	-254500.8980000.	-254500.2625000.		
MAT2	704	6501000.2411000.	-94900.9416000.	-94900.2500000.		
MAT2	705	6047000.2622000.	-109000.9502000.	-109000.2783000.		
MAT2	706	7849000.2569000.	-130600.7900000.	-130600.2733000.		
MAT2	707	7849000.2569000.	-130000.7902000.	-130000.2600000.		
MAT2	708	6516000.2481000.	-178900.9219000.	-178900.2700000.		
MAT2	709	6299000.2424000.	-149500.9651000.	-149500.2700000.		
MAT2	710	6427000.2319000.	-413300.9734000.	-413300.2800000.		
PARAM	GRDPWT	0				
PARAM	WTHASS	0.00258				
PBAR	27	100.	9999.	9999.	9999.	
PBAR	2401	2	100.0	100.0	.00001	.001
+2401A						
+2401A	1.	.00000001				
PBAR	2402	2	100.0	100.0	.00001	.001
+2402A						
+2402A	1.	.00000001				
PBAR	2403	2	100.0	100.0	.00001	.001
+2403A						
+2403A	1.	.00000001				
PBAR	2404	2	100.0	100.0	.00001	.001
+2404A						
+2404A	1.	.00000001				
PBAR	2405	2	100.0	100.0	.00001	.001
+2405A						
+2405A	1.	.00000001				
PBAR	2406	2	100.0	100.0	.00001	.001
+2406A						
+2406A	1.	.00000001				
PBAR	2407	2	100.0	100.0	.00001	.001
+2407A						
+2407A	1.	.00000001				
PBAR	2408	2	100.0	100.0	.00001	.001
+2408A						
+2408A	1.	.00000001				
PBAR	2409	2	100.0	100.0	.00001	.001
+2409A						
+2409A	1.	.00000001				
PBAR	2410	2	100.0	100.0	.00001	.001
+2410A						
+2410A	1.	.00000001				
PBAR	2411	2	100.0	100.0	.00001	.001
+2411A						
+2411A	1.	.00000001				
PBAR	2412	2	100.0	100.0	.00001	.001
+2412A						
+2412A	1.	.00000001				
PBAR	2413	2	100.0	100.0	.00001	.001
+2413A						
+2413A	1.	.00000001				
PBAR	2414	2	100.0	100.0	.00001	.001
+2414A						
+2414A	1.	.00000001				
PBAR	2415	2	100.0	100.0	.00001	.001
+2415A						
+2415A	1.	.00000001				

PBAR	2416	2	100.0	100.0	.00001	.001
+2416A						
+2416A	1.	.00000001				
PBAR	2417	2	100.0	100.0	.00001	.001
+2417A						
+2417A	1.	.00000001				
PBAR	2418	2	100.0	100.0	.00001	.001
+2418A						
+2418A	1.	.00000001				
PBAR	2419	2	100.0	100.0	.00001	.001
+2419A						
+2419A	1.	.00000001				
PBAR	2420	2	100.0	100.0	.00001	.001
+2420A						
+2420A	1.	.00000001				
PBAR	2421	2	100.0	100.0	.00001	.001
+2421A						
+2421A	1.	.00000001				
PBAR	2422	2	100.0	100.0	.00001	.001
+2422A						
+2422A	1.	.00000001				
PBAR	2423	2	100.0	100.0	.00001	.001
+2423A						
+2423A	1.	.00000001				
PBAR	2424	2	100.0	100.0	.00001	.001
+2424A						
+2424A	1.	.00000001				
PBAR	2425	2	100.0	100.0	.00001	.001
+2425A						
+2425A	1.	.00000001				
PBAR	2426	2	100.0	100.0	.00001	.001
+2426A						
+2426A	1.	.00000001				
PBAR	2427	2	100.0	100.0	.00001	.001
+2427A						
+2427A	1.	.00000001				
PBAR	2428	2	100.0	100.0	.00001	.001
+2428A						
+2428A	1.	.00000001				
PBAR	2429	2	100.0	100.0	.00001	.001
+2429A						
+2429A	1.	.00000001				
PBAR	2430	2	100.0	100.0	.00001	.001
+2430A						
+2430A	1.	.00000001				
PBAR	2431	2	100.0	100.0	.00001	.001
+2431A						
+2431A	1.	.00000001				
PBAR	2432	2	100.0	100.0	.00001	.001
+2432A						
+2432A	1.	.00000001				
PBAR	2433	2	100.0	100.0	.00001	.001
+2433A						
+2433A	1.	.00000001				
PBAR	2434	2	100.0	100.0	.00001	.001
+2434A						
+2434A	1.	.00000001				
PBAR	2435	2	100.0	100.0	.00001	.001
+2435A						
+2435A	1.	.00000001				
PBAR	2436	2	100.0	100.0	.00001	.001
+2436A						
+2436A	1.	.00000001				
PBAR	2437	2	100.0	100.0	.00001	.001
+2437A						
+2437A	1.	.00000001				
PBAR	2438	2	100.0	100.0	.00001	.001
+2438A						
+2438A	1.	.00000001				
PBAR	2439	2	100.0	100.0	.00001	.001
+2439A						
+2439A	1.	.00000001				
PBAR	2440	2	100.0	100.0	.00001	.001
+2440A						
+2440A	1.	.00000001				
PBAR	2441	2	100.0	100.0	.00001	.001
+2441A						
+2441A	1.	.00000001				
PBAR	2442	2	100.0	100.0	.00001	.001
+2442A						
+2442A	1.	.00000001				
PBAR	2443	2	100.0	100.0	.00001	.001
+2443A						
+2443A	1.	.00000001				
PBAR	2444	2	100.0	100.0	.00001	.001
+2444A						
+2444A	1.	.00000001				
PBAR	2445	2	100.0	100.0	.00001	.001
+2445A						
+2445A	1.	.00000001				
PBAR	2446	2	100.0	100.0	.00001	.001
+2446A						
+2446A	1.	.00000001				
PBAR	2447	2	100.0	100.0	.00001	.001
+2447A						
+2447A	1.	.00000001				
PBAR	2448	2	100.0	100.0	.00001	.001
+2448A						
+2448A	1.	.00000001				
PBAR	2449	2	100.0	100.0	.00001	.001
+2449A						
+2449A	1.	.00000001				
PBAR	2450	2	100.0	100.0	.00001	.001
+2450A						
+2450A	1.	.00000001				
PBAR	2451	2	100.0	100.0	.00001	.001
+2451A						
+2451A	1.	.00000001				
PBAR	2452	2	100.0	100.0	.00001	.001
+2452A						
+2452A	1.	.00000001				
PBAR	24					



PBAR	2454	2	100.0	100.0	.000001	.001
+2454						
+2454A	1.		.00000001			
PBAR	2455	2	100.0	100.0	.000001	.001
+2455						
+2455A	1.		.00000001			
PBAR	2456	2	100.0	100.0	.000001	.001
+2456						
+2456A	1.		.00000001			
PBAR	2457	2	100.0	100.0	.000001	.001
+2457						
+2457A	1.		.00000001			
PBAR	2458	2	100.0	100.0	.000001	.001
+2458						
+2458A	1.		.00000001			
PBAR	2459	2	100.0	100.0	.000001	.001
+2459						
+2459A	1.		.00000001			
PBAR	2460	2	100.0	100.0	.000001	.001
+2460						
+2460A	1.		.00000001			
PBAR	3502	2	10000.	99990.	99990.	99990.
PBEAM	1	2	.690	480.000	371.450	
+1	NO	1.0		593.000	547.400	
+1A	0.	1.				
PBEAM	2	2	.690	593.000	547.400	
+2	NO	1.0		736.000	606.050	
+2A	0.	1.				
PBEAM	3	2	4.140	896.000	655.500	
+3	NO	1.0		912.000	656.500	
+3A	0.	1.				
PBEAM	4	2	4.140	912.000	656.500	
+4	NO	1.0		3104.000	1780.000	
+4A	0.	1.				
PBEAM	5	2	4.140	3104.000	1780.000	
+5	NO	1.0		6240.000	3625.000	
+5A	0.	1.				
PBEAM	6	2	3.600	8000.000	4245.000	
+6	NO	1.0		7900.000	4430.000	
+6A	0.	1.				
PBEAM	7	2	1980.000	7909.000	4130.000	
+7	NO	1.0		8100.000	4170.000	
+7A	0.	1.				
PBEAM	8	2	1980.000	8100.000	4170.000	
+8	NO	1.0		9400.000	3900.000	
+8A	0.	1.				
PBEAM	9	2	1980.000	9400.000	3900.000	
+9	NO	1.0		9400.000	3887.062	
+9A	0.	1.				
PBEAM	10	2	1980.000	9400.000	3887.062	
+10	NO	1.0		10100.000	3670.000	
+10A	0.	1.				
PBEAM	11	2	1980.000	10100.000	3670.000	
+11	NO	1.0		1000.000	3691.000	
+11A	0.	1.				
PBEAM	12	2	1980.000	1000.000	3691.000	
+12	NO	1.0		9600.000	3700.000	
+12A	0.	1.				
PBEAM	13	2	1980.000	9600.000	3700.000	
+13	NO	1.0		8750.000	3780.000	
+13A	0.	1.				
PBEAM	14	2	1980.000	8750.000	3780.000	
+14	NO	1.0		8123.630	3590.000	
+14A	0.	1.				
PBEAM	15	2	1980.000	8123.630	3590.000	
+15	NO	1.0		7200.000	3340.000	
+15A	0.	1.				
PBEAM	16	2	1980.000	7200.000	3340.000	
+16	NO	1.0		6425.000	1872.000	
+16A	0.	1.				
PBEAM	17	2	1980.000	6425.000	1872.000	
+17	NO	1.0		1980.000	6375.000	
+17A	0.	1.				
PBEAM	18	2	1980.000	1980.000	6375.000	
+18	NO	1.0		1980.000	6200.000	
+18A	0.	1.				
PBEAM	19	2	1980.000	1980.000	6200.000	
+19	NO	1.0		1980.000	6900.000	
+19A	0.	1.				
PBEAM	20	2	1980.000	1980.000	6900.000	
+20	NO	1.0		1980.000	8250.000	
+20A	0.	1.				
PBEAM	21	2	1980.000	1980.000	8250.000	
+21	NO	1.0		1980.000	8250.000	
+21A	0.	1.				
PBEAM	22	2	1.	8250.000	960.000	
+22	NO	1.0		8250.000		
+22A	0.	1.				
PBEAM	31	2	200.000	9999.0	9999.000	
+31	NO	1.0		197.000		
PBEAM	32	2	200.000	9999.0	9999.000	
+32	NO	1.0		200.000		
PBEAM	33	2	200.000	9999.0	9999.000	
+33	NO	1.0		207.000		
PBEAM	34	2	200.000	9999.0	9999.000	
+34	NO	1.0		215.000		
PBEAM	35	2	200.000	9999.0	9999.000	
+35	NO	1.0		219.000		
PBEAM	36	2	200.000	9999.0	9999.000	
+36	NO	1.0		222.000		
PBEAM	37	2	1980.000	9999.0	9999.000	
+37	NO	1.0		1188.000		
PBEAM	38	2	1.970	9999.0	251.45	
+38	NO	1.0		.950	49.35	
PBEAM	39	2	4.140	9999.0	323.80	
+39	NO	1.0		2.140	123.20	
PBEAM	40	2	4.140	9999.0	284.10	
+40	NO	1.0		2.180	140.90	
PBEAM	41	2	5.590	9999.0	376.40	
+41	NO	1.0		2.834	124.70	
PBEAM	42	2	3.942	9999.0	379.30	
+42	NO	1.0		2.088	112.40	
PBEAM	43	2	2.886	9999.0	350.15	
+43	NO	1.0		2.340	293.75	

+2454						
+2454A						
+2455						
+2455A						
+2456						
+2456A						
+2457						
+2457A						
+2458						
+2458A						
+2459						
+2459A						
+2460						
+2460A						
+1						
+1A						
+2						
+2A						
+3						
+3A						
+4						
+4A						
+5						
+5A						
+6						
+6A						
+7						
+7A						
+8						
+8A						
+9						
+9A						
+10						
+10A						
+11						
+11A						
+12						
+12A						
+13						
+13A						
+14						
+14A						
+15						
+15A						
+16						
+16A						
+17						
+17A						
+18						
+18A						
+19						
+19A						
+20						
+20A						
+21						
+21A						
+22						
+22A						
+31						
+32						
+33						
+34						
+35						
+36						
+37						
+38						
+39						
+40						
+41						
+42						
+43						

PBEAM	44	2	2.340	9999.0	293.75	
+44	NO	1.0	1.430		99.875	
PBEAM	45	2	1.430	9999.0	99.875	
+45	NO	1.0	1.521		76.375	
PBEAM	46	2	2.250	9999.0	215.00	
+46	NO	1.0	2.250		162.00	
PBEAM	47	2	2.250	9999.0	162.00	
+47	NO	1.0	1.875		133.00	
PBEAM	48	2	1.875	9999.0	133.00	
+48	NO	1.0	2.250		46.00	
PBEAM	49	2	1.256	1.	41.26	
+49	NO	1.0	1.354		51.57	
+49A	0.	1.				
PBEAM	50	2	1.354	1.	51.57	
+50	NO	1.0	1.371		53.59	
+50A	0.	1.				
PBEAM	51	2	1.371	1.	53.59	
+51	NO	1.0	1.371		53.59	
+51A	0.	1.				
PBEAM	52	2	1.371	1.	53.59	
+52	NO	1.0	1.534		60.14	
+52A	0.	1.				
PBEAM	53	2	1.534	1.	60.14	
+53	NO	1.0	1.547		62.03	
+53A	0.	1.				
PBEAM	54	2	.942	1.	37.54	
+54	NO	1.0	1.449		76.22	
+54A	0.	1.				
PBEAM	55	2	1069.000	1.	9999.00	
+55	NO	1.0	1980.000		9999.00	
+55A	0.	1.				
PBEAM	56	2	1980.000	1.	9999.00	
+56	NO	1.0	1485.000		9999.00	
+56A	0.	1.				
PBEAM	57	2	1.440	.001	.001	
+57	NO	1.0	1.440			
+57A	0.	1.				
PBEAM	141	2	2.380	1.	46.34	
+141	NO	1.0	2.520		52.89	
+141A	0.	1.				
PBEAM	142	2	2.520	1.	52.89	
+142	NO	1.0	2.660		60.54	
+142A	0.	1.				
PBEAM	143	2	2.660	1.	54.50	
+143	NO	1.0	2.800		61.49	
+143A	0.	1.				
PBEAM	144	2	2.800	1.	61.49	
+144	NO	1.0	3.080		76.54	
+144A	0.	1.				
PBEAM	145	2	3.080	1.	76.54	
+145	NO	1.0	3.080		76.54	
+145A	0.	1.				
PBEAM	146	2	.990	1.	44.68	
+146	NO	1.0	1.017		47.44	
+146A	0.	1.				
PBEAM	147	2	1.017	1.	34.25	
+147	NO	1.0	1.620		103.19	
+147A	0.	1.				
PBEAM	148	2	1.500	1.	24.08	
+148	NO	1.0	1.875		39.37	
+148A	0.	1.				
PBEAM	149	2	1.875	1.	39.37	
+149	NO	1.0	2.250		59.52	
+149A	0.	1.				
PBEAM	150	2	1.125	1.	44.13	
+150	NO	1.0	1.538			



+171A	0.	1.	.0000		
PBEAM	172	2	1.230	84.87	.001
+172	NO	1.0	1.000	57.12	
+172A	0.	1.	.2063		
PBEAM	173	2	1.125	41.92	.001
+173	NO	1.0	1.188	46.53	
+173A	0.	1.	-.0541		
PBEAM	174	2	.750	12.63	.001
+174	NO	1.0	1.063	23.78	
+174A	0.	1.	-.3448		
PBEAM	175	2	1059.3001	9999.00	.001
+175	NO	1.0	841.500	9999.00	
+175A	0.	1.	.0000		
PBEAM	176	2	75.000	2.98	.001
+176	NO	1.0	79.000	12.10	
+176A	0.	1.	.0000		
PBEAM	177	2	79.000	12.10	.001
+177	NO	1.0	82.000	29.71	
+177A	0.	1.	.0000		
PBEAM	178	2	82.000	29.71	.001
+178	NO	1.0	85.000	29.71	
+178A	0.	1.	.0000		
PBEAM	179	2	85.000	9999.0	.001
+179	NO	1.0	90.000	46.06	
PBEAM	180	2	90.000	9999.0	.001
+180	NO	1.0	55.800	31.90	
PBEAM	181	2	990.000	9999.00	.001
+181	NO	1.0			
PBEAM	182	2	990.000	9999.00	.001
+182	NO	1.0			
PBEAM	1001	2	1.34778	14.325	
+1001	NO	1.	1.32951	14.209	
+1001A	0.	1.	1.36-2		
PBEAM	1002	2	1.32951	14.209	
+1002	NO	1.	1.23648	13.640	
+1002A	0.	1.	7.25-2		
PBEAM	1003	2	1.23648	13.640	
+1003	NO	1.	1.09137	12.836	
+1003A	0.	1.	.125		
PBEAM	1004	2	1.09137	12.836	
+1004	NO	1.	0.85176	11.727	
+1004A	0.	1.	.247		
PBEAM	1005	2	0.85176	11.727	
+1005	NO	1.	0.57309	10.782	
+1005A	0.	1.	.391		
PBEAM	1007	2	0.5201	4.137	
+1007	NO	1.	0.5704	4.188	
+1007A	0.	1.	-9.23-2		
PBEAM	1009	2	0.05068	7.4	
+1009	NO	1.	0.05704		
+1009A	0.	1.	-1.18		
PBEAM	1010	2	0.68448	11.387	
+1010	NO	1.	0.65988	10.584	
+1010A	0.	1.	3.66-2		
PBEAM	1011	2	0.65988	3.834	
+1011	NO	1.	0.58224	3.781	
+1011A	0.	1.	.125		
PBEAM	1012	2	0.4852	2.985	
+1012	NO	1.	0.3817	3.085	
+1012A	0.	1.	.239		
PBEAM	1013	2	0.3817	4.113	
+1013	NO	1.	0.2527	3.779	
+1013A	0.	1.	.407		
PBEAM	1014	2	1.1795	32.608	
+1014	NO	1.	1.24325	37.764	
+1014A	0.	1.	-5.26-2		
PBEAM	1015	2	1.24325	35.291	
+1015	NO	1.	1.26225	36.787	
+1015A	0.	1.	-1.52-2		
PBEAM	1016	2	1.0098	36.787	
+1016	NO	1.	0.897	28.514	
+1016A	0.	1.	.118		
PBEAM	1017	2	0.897	28.514	
+1017	NO	1.	0.7106	17.378	
+1017A	0.	1.	.232		
PBEAM	1018	2	0.88825	17.378	
+1018	NO	1.	0.569	7.448	
+1018A	0.	1.	.438		
PBEAM	1020	2	.174168	2.924	
+1020	NO	1.	.192741	3.774	
+1020A	0.	1.	-.101		
PBEAM	1022	2	.004037	8.0	
+1022	NO	1.	.004701	3.	
+1022A	0.	1.	-.152		
PBEAM	1023	2	.192741	3.774	
+1023	NO	1.	.173225	1.931	
+1023A	0.	1.	.107		
PBEAM	1024	2	.173225	1.931	
+1024	NO	1.	.137473	.991	
+1024A	0.	1.	.230		
PBEAM	1025	2	.137473	.991	
+1025	NO	1.	.085198	4.751	
+1025A	0.	1.	.470		
PBEAM	1026	2	0.53326	4.915	
+1026	NO	1.	0.56896	4.995	
+1026A	0.	1.	-6.48-2		
PBEAM	1027	2	0.97536	4.995	
+1027	NO	1.	.93792	4.858	
+1027A	0.	1.	3.91-2		
PBEAM	1028	2	0.54712	4.858	
+1028	NO	1.	0.43652	2.292	
+1028A	0.	1.	.225		
PBEAM	1029	2	0.12472	2.292	
+1029	NO	1.	0.07392	.998	
+1029A	0.	1.	.511		
PBEAM	1031	2	.602006	12.135	
+1031	NO	1.	.638206	13.539	
+1031A	0.	1.	-5.84-2		
PBEAM	1033	2	0.0327	5.4	
+1033	NO	1.	0.03526	0.529	
+1033A	0.	1.	-7.53-2		
PBEAM	1034	2	.461906	13.539	
+1034	NO	1.	.371385	8.407	
+1034A	0.	1.	.217		

+172	
+172A	
+173	
+173A	
+174	
+174A	
+175	
+175A	
+176	
+176A	
+177	
+177A	
+178	
+178A	
+179	
+180	
+181	
+182	
+1001	
+1001A	
+1002	
+1002A	
+1003	
+1003A	
+1004	
+1004A	
+1005	
+1005A	
+1007	
+1007A	
+1009	
+1009A	
+1010	
+1010A	
+1011	
+1011A	
+1012	
+1012A	
+1013	
+1013A	
+1014	
+1014A	
+1015	
+1015A	
+1016	
+1016A	
+1017	
+1017A	
+1018	
+1018A	
+1020	
+1020A	
+1022	
+1022A	
+1023	
+1023A	
+1024	
+1024A	
+1025	
+1025A	
+1026	
+1026A	
+1027	
+1027A	
+1028	
+1028A	
+1029	
+1029A	
+1031	
+1031A	
+1033	
+1033A	
+1034	
+1034A	

PBEAM	1035	2	0.1134	.241	
+1035	NO	1.	0.0864	.140	
+1035A	0.	1.	.270		
PBEAM	1036	2	.371385	7.726	
+1036	NO	1.	.208421	2.466	
+1036A	0.	1.	.562		
PBEAM	1037	2	0.0864	.140	
+1037	NO	1.	0.06364	.0759	
+1037A	0.	1.	.303		
PBEAM	1038	2	0.54612	5.551	
+1038	NO	1.	0.58212	5.807	
+1038A	0.	1.	-6.38-2		
PBEAM	1039	2	0.19404	4.814	
+1039	NO	1.	0.15936	2.212	
+1039A	0.	1.	.196		
PBEAM	1040	2	0.15936	2.212	
+1040	NO	1.	0.1296	.140	
+1040A	0.	1.	.206		
PBEAM	1041	2	0.216	.233	
+1041	NO	1.	0.1411	.0995	
+1041A	0.	1.	.419		
PBEAM	1043	2	.1148	.239	
+1043	NO	1.	.118531	.255	
+1043A	0.	1.	-3.20-2		
PBEAM	1045	2	0.02716	3.2	
+1045	NO	1.	0.02891	0.119	
+1045A	0.	1.	-6.24-2		
PBEAM	1046	2	.118531	.255	
+1046	NO	1.	.103033	.193	
+1046A	0.	1.	.140		
PBEAM	1047	2	0.02568	0.001	
+1047	NO	1.	0.02513		
+1047A	0.	1.	2.16-2		
PBEAM	1048	2	.103033	.193	
+1048	NO	1.	.082328	.123	
+1048A	0.	1.	.223		
PBEAM	1049	2	.082328	.637	
+1049	NO	1.	0.05289	.953	
+1049A	0.	1.	.435		
PBEAM	1050	2	12.9	.952	
+1050	NO	1.	2.9	.15	
+1050A	0.	1.	1.266		
PBEAM	1051	2	0.41616	4.768	
+1051	NO	1.	0.39888	4.214	
+1051A	0.	1.	4.24-2		
PBEAM	1052	2	0.28808	3.968	
+1052	NO	1.	0.22399	2.323	
+1052A	0.	1.	.250		
PBEAM	1053	2	0.22399	2.323	
+1053	NO	1.	0.13195	.077	
+1053A	0.	1.	.517		
PBEAM	1054	2	10.15	1.104	
+1054	NO	1.	2.3	.15	
+1054A	0.	1.	1.261		
PBEAM	1056	2	0.0772	.112	
+1056	NO	1.	.07868	.116	
+1056A	0.	1.	-1.90-2		
PBEAM	1057	2	0.07868	.116	
+1057	NO	1.	0.06116	.0701	
+1057A	0.	1.	.251		
PBEAM	1058	2	0.06116	.587	
+1058	NO	1.	.0332	.173	
+1058A	0.	1.	.593		
PBEAM	1059	2	8.3	.173	
+1059	NO	1.	1.8	.15	
+1059A	0.	1.	1.287		
PBEAM	1060	2	0.6004	1.874	3.
+1060	NO	1.	0.513	1.073	
+1060A	0.	1.	.157		
PBEAM	1061	2	0.513	1.073	2.
+1061	NO	1.	.2508	.265	
+1061A	0.	1.	.687		
PBEAM	1062	2	6.6	.249	
+1062	NO	1.	1.5	.15	
+1062A	0.	1.	1.259		
PBEAM	1071	2	.563180	30.125	
+1071	NO	1.	.456388	12.840	
+1071A	0.	1.	.209		
PBEAM	1072	2	.682631	8.277	
+1072	NO	1.	.665175	7.859	
+1072A	0.	1.	2.59-2		
PBEAM	1073	2	.554312	7.859	
+1073	NO	1.	.515704	6.811	
+1073A	0.	1.	7.15-2		
PBEAM	1074	2	.58975	14.868	
+1074	NO	1.	.531	6.135	
+1074A	0.	1.	.105		
PBEAM	1075	2	.675834	32.711	
+1075	NO	1.	.608902	25.555	
+1075A	0.	1.	.104		
PBEAM	1076	2	.74152	3.66	
+1076	NO	1.	.64649	10.312	
+1076A	0.	1.	.137		
PBEAM	1077	2	0.59676	12.691	
+1077	NO	1.	0.50976	2.256	
+1077A	0.	1.	.157		
PBEAM	1078	2	.531	6.135	
+1078	NO	1.	.504625	5.541	
+1078A	0.	1.	5.09-2		
PBEAM	1079	2	0.52481	5.541	
+1079	NO	1.	0.49517	4.933	
+1079A	0.	1.	5.81-2		
PBEAM	1080	2	0.41899	4.933	
+1080	NO	1.	0.36586	6.161	
+1080A	0.	1.	.135		
PBEAM	1081	2	.902630	30.774	
+1081	NO	1.	.842997	31.687	
+1081A	0.	1.	6.83-2		
PBEAM	1082	2	.7561		



PBEAM	1084	2	0.9402	1.	2.762	+1084	1122	2	0.23987	1.	.388	+1122
+1084	NO	1.	0.8128		2.065	+1084A	+1122	NO	1.	0.2193	.324	+1122A
+1084A	O.	1.					+1122A	O.	1.	8.96-2		
PBEAM	1085	2	0.48768	1.	2.242	+1085	PBEAM	1123	2	2.193	0.577	+1123
+1085	NO	1.	0.39912		2.251	+1085A	+1123	NO	1.	1.7255	0.319	+1123A
+1085A	O.	1.		.200			+1123A	O.	1.		.239	
PBEAM	1086	2	0.73172	1.	4.425	+1086	PBEAM	1124	2	1.7255	.1	0.319
+1086	NO	1.	0.7194		4.277	+1086A	+1124	NO	1.	1.411	0.186	+1124A
+1086A	O.	1.		1.70-2			+1124A	O.	1.		.201	
PBEAM	1087	2	0.7194	1.	4.277	+1087	PBEAM	1125	2	1.411	1.	0.186
+1087	NO	1.	0.66748		3.682	+1087A	+1125	NO	1.	1.122	0.37	+1125A
+1087A	O.	1.		7.49-2			+1125A	O.	1.		.228	
PBEAM	1088	2	0.48544	1.	3.682	+1088	PBEAM	1126	2	0.290	1.	.15
+1088	NO	1.	0.448		3.136	+1088A	+1126	NO	1.	0.230		+1126A
+1088A	O.	1.		8.02-2			+1126A	O.	1.		.231	
PBEAM	1089	2	0.616	1.	3.136	+1089	PBEAM	1127	2	0.230	1.	.15
+1089	NO	1.	0.59752		2.951	+1089A	+1127	NO	1.	0.180		+1127A
+1089A	O.	1.		3.05-2			+1127A	O.	1.		.244	
PBEAM	1090	2	0.59752	1.	3.319	+1090	PBEAM	1128	2	0.180	1.	.15
+1090	NO	1.	0.56496		2.968	+1090A	+1128	NO	1.	0.150		+1128A
+1090A	O.	1.		5.60-2			+1128A	O.	1.		.182	
PBEAM	1091	2	.964044	1.	26.163	+1091	PBEAM	1131	2	24.900	1.	2.334
+1091	NO	1.	.900046		33.946	+1091A	+1131	NO	1.0	41.600	4.497	+1131A
+1091A	O.	1.		6.87-2			+1131A	O.	1.		-.502	
PBEAM	1092	2	.80058	1.	8.240	+1092	PBEAM	1132	2	22.300	1.	1.258
+1092	NO	1.	.740025		7.040	+1092A	+1132	NO	1.0	43.800	6.091	+1132A
+1092A	O.	1.		7.86-2			+1132A	O.	1.		-.651	
PBEAM	1093	2	0.9867	1.	3.017	+1093	PBEAM	1133	2	43.800	1.	6.091
+1093	NO	1.	0.9295		2.678	+1093A	+1133	NO	2.0	46.400	8.843	+1133A
+1093A	O.	1.		5.97-2			+1133A	O.	1.		-.058	
PBEAM	1094	2	0.7605	1.	2.231	+1094	PBEAM	1134	2	46.4	100.	13.5
+1094	NO	1.	0.70344		1.909	+1094A	+1134	NO	1.	50.68		+1134A
+1094A	O.	1.		7.80-2			+1134A	O.	1.		-8.82-2	
PBEAM	1095	2	0.62528	1.	2.245	+1095	PBEAM	1135	2	20.300	1.	1.601
+1095	NO	1.	0.56416		5.554	+1095A	+1135	NO	1.0	39.600	5.214	+1135A
+1095A	O.	1.		.103			+1135A	O.	1.		-.644	
PBEAM	1096	2	1.12832	1.	3.720	+1096	PBEAM	1136	2	17.900	1.	1.469
+1096	NO	1.	1.03488		3.138	+1096A	+1136	NO	1.0	35.300	4.849	+1136A
+1096A	O.	1.		8.64-2			+1136A	O.	1.		-.654	
PBEAM	1097	2	0.58212	1.	.9936	+1097	PBEAM	1137	2	35.300	1.	4.849



+1162  
+1162A  
  
+1163  
+1163A  
  
+1164  
+1164A  
  
+1165  
+1165A  
  
+1166  
+1166A  
  
+1167  
+1167A  
  
+1168  
+1168A  
  
+1169  
+1169A  
  
+1170  
+1170A  
  
+1171  
+1171A  
  
+1181  
+1181A  
  
+1182  
+1182A  
  
+1183  
+1183A  
  
+1184  
+1184A  
  
+1185  
+1185A  
  
+1186  
+1186A  
  
+1187  
+1187A  
  
+1188  
+1188A  
  
+1189  
+1189A  
  
+1190  
+1190A  
  
+1191  
+1191A  
  
+1192  
+1192A  
  
+1193  
+1193A  
  
+1194  
+1194A  
  
+1195  
+1195A  
  
+1196  
+1196A  
  
+1197  
+1197A  
  
+1198  
+1198A  
  
+1199  
+1199A  
  
+1200  
+1200A  
  
+1201  
+1201A  
  
+1202  
+1202A  
  
+1203  
+1203A  
  
+1204  
+1204A  
  
+1205  
+1205A  
  
+1206  
+1206A  
  
+1207  
+1207A  
  
+1208  
+1208A

	1209
A	NO
0.	1210
NO	
0.	1211
NO	
0.	1212
NO	
0.	1213
NO	
0.	1214
NO	
0.	1215
NO	
0.	1216
NO	
0.	1217
NO	
0.	1218
NO	
0.	1219
NO	
0.	1220
NO	
0.	1231
NO	
0.	1232
NO	
0.	1233
NO	
0.	1234
NO	
0.	1235
NO	
0.	1236
NO	
0.	1237
NO	
0.	1238
NO	
0.	1241
NO	
0.	1242
NO	
0.	1243
NO	
0.	1244
NO	
0.	1245
NO	
0.	1246
NO	
0.	1247
NO	
0.	1248
NO	
0.	1251
NO	
0.	1252
NO	
0.	1253
NO	
0.	1254
NO	
0.	1255
NO	
0.	1256
NO	
0.	1257
NO	
0.	1258
NO	
0.	1261
NO	
0.	1262
NO	



PBEAM	1263	2	4.750	1.	.00047	.900	+1263	PBEAM	2055	2	105.994	1.	.914	.001	+2055
+1263	NO	1.0	5.250		.00068		+1263A	+2055	NO	1.	92.900	1.	.632	.001	+2056
+1263A	0.	1.		-.1000				PBEAM	2056	2	92.900	1.	.632		
PBEAM	1264	2	4.260	1.	.00035	.700	+1264	+2056	NO	1.	79.720	1.	.350		+2057
+1264	NO	1.0	4.750		.00047		+1264A	PBEAM	2057	2	79.720	1.	.310	.001	
+1264A	0.	1.		-.1088				+2057	NO	1.	64.600	1.	.204	.001	+2058
PBEAM	1265	2	3.950	1.	.00023	.400	+1265	PBEAM	2058	2	64.600	1.	.204		
+1265	NO	1.0	4.260		.00035		+1265A	+2058	NO	1.	49.451	1.	.099	.001	+3026P
+1265A	0.	1.		-.0755				PBEAM	3026	2	1.896	1000.	10.	.001	+3026PA
PBEAM	1266	2	3.640	1.	.00017	.300	+1266	+3026P	NO	1.	4.92				
+1266	NO	1.0	3.950		.00023		+1266A	+3026PA	0.	1.		-0.887			
+1266A	0.	1.		-.0817				PBEAM	3027	2	0.3	1000.	10.	.001	+3027P
PBEAM	1267	2	3.330	1.	.00011	.150	+1267	+3027P	NO	1.	0.123				+3027PA
+1267	NO	1.0	3.640		.00017		+1267A	+3027PA	0.	1.		0.837			
+1267A	0.	1.		-.0890				PBEAM	3028	2	22.	1000.	10.	.001	+3028P
PBEAM	1268	2	2.990	1.	.00008	.075	+1268	+3028P	NO	1.	41.				+3028PA
+1268	NO	1.0	3.330		.00011		+1268A	+3028PA	0.	1.		-0.603			
+1268A	0.	1.		-.1076				PBEAM	3029	2	22.	1000.	10.	.001	+3029P
PBEAM	2001	2	2038.9591.		2.060	.001	+2001	+3029P	NO	1.					
+2001	NO	1.	3806.7001.		19.530	.001	+2002	PBEAM	3030	2	41.	1000.	10.	.001	+3030P
PBEAM	2002	2	3806.7001.		19.530	.001	+2003	+3030P	NO	1.					
+2002	NO	1.	5574.4201.		37.000	.001	+2004	PBEAM	3031	2	41.	1000.	10.	.001	+3031P
PBEAM	2003	2	5574.4201.		37.000	.001	+2005	+3031P	NO	1.					
+2003	NO	1.	3618.9001.		18.660	.001	+2006	PBEAM	3032	2	41.	1000.	10.	0.	+3032P
PBEAM	2004	2	3618.9001.		18.660	.001	+2007	+3032P	NO	1.					
+2004	NO	1.	1663.3351.		.320	.001	+2008	PBEAM	3081	2	23.11	999.	.01	.01	+3081P
PBEAM	2005	2	1429.5691.		1.290	.001	+2009	+3081P	NO	1.	100.				+3081PA
+2005	NO	1.	3214.8001.		10.645	.001	+2010	+3081PA	0.	1.		-1.249		.01	+3082P
PBEAM	2006	2	3214.8001.		10.645	.001	+2011	PBEAM	3082	2	100.	999.	.01	.01	+3082PA
+2006	NO	1.	4999.9951.		20.000	.001	+2012	+3082P	NO	1.	22.11				
PBEAM	2007	2	4999.9951.		20.000	.001	+2013	+3082PA	0.	1.	1.276				
+2007	NO	1.	3331.6651.		11.600	.001	+2014	PBEAM	3083	2	100.	999.	.01	.01	+3083P
PBEAM	2008	2	3331.6651.		11.600	.001	+2015	+3083P	NO	1.					+3083PA
+2008	NO	1.	1663.3351.		3.200	.001	+2016	+3083PA	1.	.001					
PBEAM	2009	2	1117.8811.		.770	.001	+2017	PBEAM	3085	2	100.	999.	.01	.01	+3085P
+2009	NO	1.	2357.6401.		.485	.001	+2018	+3085P	NO	1.					+3085PA
PBEAM	2010	2	2357.6401.		.485	.001	+2019	+3085PA	1.	.001					
+2010	NO	1.	3597.3991.		.200	.001	+2020	PBEAM	3087	2	22.	.001	26.89	.001	+3087P
PBEAM	2011	2	3597.3991.		.200	.001	+2021	+3087P	NO	1.					+3087PA
+2011	NO	1.	2467.5301.		.650	.001	+2022	+3087PA	.001	1.					
PBEAM	2012	2	2467.5301.		.650	.001	+2023	PBEAM	3088	2	22.	.001	999.	.001	+3088P
+2012	NO	1.	1337.6611.		1.100	.001	+2024	+3088P	NO	1.					+3088PA
PBEAM	2013	2	859.140	1.	.294	.001	+2025	+3088PA	.001	1.					
+2013	NO	1.	1864.8001.		.247	.001	+2026	PBEAM	3089	2	22.	.001	10.	.001	+3089P
PBEAM	2014	2	1864.8001.		.247	.001	+2027	+3089P	NO	1.					+3089PA
+2014	NO	1.	2870.5271.		.200	.001	+2028	+3089PA	.001	1.					
PBEAM	2015	2	2870.5271.		.200	.001	+2029	PBEAM	3090	2	3.3	.001	5.88	4.5	+3090P
+2015	NO	1.	1965.2331.		.470	.001	+2030	+3090P	NO	1.	.726				+3090PA
PBEAM	2016	2	1965.2331.		.470	.001	+2031	+3090PA	.001	1.	1.279				
+2016	NO	1.	1059.9391.		.740	.001	+2032	PBEAM	3091	2	.726	.001	5.88	4.5	+3091P
PBEAM	2017	2	617.482	1.	.108	.001	+2033	+3091P	NO	1.					+3091PA
+2017	NO	1.	1398.2001.		.104	.001	+2034	+3091PA	.001	1.					
PBEAM	2018	2	1398.2001.		.104	.001	+2035	PBEAM	3092	2	.726	.001	16.17	15.	+3092P
+2018	NO	1.	2178.8191.		.100	.001	+2036	+3092P	NO	1.					+3092PA
PBEAM	2019	2	2178.8191.		.100	.001	+2037	+3092PA	.001	1.					
+2019	NO	1.	1488.0001.		.120	.001	+2038	PBEAM	3093	2	.726	.001	5.88	4.5	+3093P
PBEAM	2020	2	1488.0001.		.120	.001	+2039	+3093P	NO	1.	3.3				+3093PA
+2020	NO	1.	797.200	1.	.140	.001	+2040	+3093PA	.001	1.		-1.279		.01	+3094P
PBEAM	2021	2	454.845	1.	.100	.001	+2041	PBEAM	3094	2	100.	10.21	.001	.01	+3094PA
+2021	NO	1.	832.800	1.	.110	.001	+2042	+3094P	NO	1.					
PBEAM	2022	2	832.800	1.	.110	.001	+2043	+3094PA	1.	.001					
+2022	NO	1.	1210.7881.		.120	.001	+2044	PBEAM	3095	2	100.	80.	.001	.01	+3095P
PBEAM	2023	2	1210.7881.		.120	.001	+2045	+3095P	NO	1.					+3095PA
+2023	NO	1.	852.600	1.	.126	.001	+2046	+3095PA	1.	.001					
PBEAM	2024	2	852.600	1.	.126	.001	+2047	PBEAM	3096	2	100.	10.21	.001	.01	+3096P
+2024	NO	1.	494.505	1.	.131	.001	+2048	+3096P	NO	1.					+3096PA
PBEAM	2031	2	203.896	1.	.44	.001	+2049	+3096PA	1.	.001					
+2031	NO	1.	173.400	1.	22.970	.001	+2050	PBEAM	3097	2	100.	333.	.1	.01	+3097P
PBEAM	2032	2	173.400	1.	22.970	.001	+2051	+3097P	NO	1.					
+2032	NO	1.	142.957	1.	1.740	.001	+2052	PBEAM	3098	2	22.	333.	.001	.01	+3098P
PBEAM	2033	2	142.957	1.	1.740	.001	+2053	+3098P	NO	1.	100.				
+2033	NO	1.	127.400	1.	1.339	.001	+2054	PBEAM	3099	2	100.	333.	.1	.01	+3099P
PBEAM	2034	2	127.400	1.	1.339	.001	+2055	+3099P	NO	1.					
+2034	NO	1.	111.788	1.	.937	.001	+2056	PBEAM	3100	2	100.	999.	999.	20.	+3100P
PBEAM	2035	2	111.788	1.	.937	.001	+2057	+3100P	NO	1.					
+2035	NO	1.	98.900	1.	.714	.001	+2058	PBEAM	3391	2	60.	99999.	99999.	.01	+3391P
PBEAM	2036	2	98.900	1.	.714	.001	+2059	+3391P	NO	1.					
+2036	NO	1.	85.914	1.	.490	.001	+2060	PBEAM	3405	2	60.	99999.	99999.	.01	+3405P
PBEAM	2037	2	85.914	1.	.490	.001	+2061	+3405P	NO	1.					
+2037	NO	1.	73.800	1.	.395	.001	+2062	PBEAM	3407	2	60.	99999.	30.11	.01	+3407P
PBEAM	2038	2	73.800	1.	.395	.001	+2063	+3407P	NO	1.					
+2038	NO	1.	61.748	1.	.300	.001	+2064	PBEAM	3409	2	60.	99999.	99999.	249750.	+3409P
PBEAM	2039	2	61.748	1.	.300	.001	+2065	+3409P	NO	1.					
+2039	NO	1.	53.600	1.	.205	.001	+2066	PBEAM	5002	2	.920	736.000	606.050	640.	+5002
PBEAM	2040	2	53.600	1.	.205	.001	+2067	+5002	NO	1.0		896.000	655.500		+5002A
+2040	NO	1.	45.484	1.	.110	.001	+2068	+5002A	0.	1.					
PBEAM	2041	2	557.442	1.	61.000	.001	+2069	PBEAM	5051	2	4.140	6240.0003625.000		5250.	+5051
+2041	NO	1.	528.700	1.	34.500	.001	+2070	+5051	NO	1.0		8000.0004172.000			+5051A
PBEAM	2042	2	528.700	1.	34.500	.001	+2071	+5051A	0.	1.					
+2042	NO	1.	500.000	1.	8.000	.001	+2072	PBEAM	5052	2	4.140	8000.0004172.000		5250.	+5052
PBEAM	2043	2	500.000	1.	2.100	.001	+2073	+5052	NO	1.0		8000.0004245.000			+5052A
+2043	NO	1.	429.900	1.	1.750	.001	+2074	+5052A	0.	1.					
PBEAM	2044	2	429.900	1.	1.750	.001	+2075	PBEAM	5053	2	4.140	8000.0004245.000		5250.	+5053
+2044	NO	1.	359.740	1.	1.400	.001	+2076	+5053	NO	1.0		8000.0004263.000			+5053A
PBEAM	2045	2	359.740	1.	1.400	.001	+2077	+5053A	0.	1.					
+2045	NO	1.	323.400	1.	1.300	.001	+2078	PLOTTEL	25	283	407				
PBEAM	2046	2	323.400	1.	1.300	.001	+2079	PLOTTEL	26	281	409				
+2046	NO	1.	287.053	1.	1.200	.001	+2080	PSHEAR	71	2	.0611				
PBEAM	2047	2	287.053	1.	1.200	.001	+2081	PSHEAR	72	2	.069325				
+2047	NO	1.	252.500	1.	.860	.001	+2082	PSHEAR	73	2	.071675				
PBEAM	2048														



PSHEAR	655	1	.042
PSHEAR	656	1	.0425
PSHEAR	657	1	.04275
PSHEAR	658	1	.08583
PSHEAR	659	1	.090
PSHEAR	660	1	.0635
PSHEAR	3105	2	.20942
PSHELL	601	601	.240
PSHELL	602	601	.296
PSHELL	603	601	.368
PSHELL	604	601	.378
PSHELL	605	601	.274
PSHELL	606	606	.247
PSHELL	607	606	.252
PSHELL	608	606	.341
PSHELL	609	606	.438
PSHELL	610	606	.410
PSHELL	611	606	.279
PSHELL	612	5	.252
PSHELL	613	5	.323
PSHELL	614	5	.384
PSHELL	615	5	.313
PSHELL	616	5	.234
PSHELL	617	5	.271
PSHELL	618	5	.275
PSHELL	619	5	.292
PSHELL	620	5	.271
PSHELL	621	5	.210
PSHELL	622	5	.267
PSHELL	623	5	.271
PSHELL	624	5	.253
PSHELL	625	5	.194
PSHELL	626	5	.255
PSHELL	627	5	.245
PSHELL	628	5	.245
PSHELL	629	5	.195
PSHELL	630	5	.187
PSHELL	631	5	.187
PSHELL	632	5	.226
PSHELL	633	5	.226
PSHELL	634	5	.191
PSHELL	635	5	.191
PSHELL	636	2	.214
PSHELL	637	2	.213
PSHELL	638	2	.214
PSHELL	639	2	.210
PSHELL	640	2	.195
PSHELL	641	2	.189
PSHELL	643	2	.205
PSHELL	644	2	.205
PSHELL	645	2	.200
PSHELL	647	2	.400
PSHELL	648	2	.400
PSHELL	649	2	.400
PSHELL	651	1	.219
PSHELL	662	1	.169
PSHELL	663	1	.116
PSHELL	664	1	.207
PSHELL	665	1	.158
PSHELL	666	1	.104
PSHELL	667	1	.190
PSHELL	668	1	.1454
PSHELL	669	1	.097
PSHELL	670	1	.173
PSHELL	671	1	.133
PSHELL	672	1	.089
PSHELL	673	1	.156
PSHELL	674	1	.123
PSHELL	675	1	.093
PSHELL	676	1	.148
PSHELL	677	1	.115
PSHELL	678	1	.078
PSHELL	679	1	.137
PSHELL	680	1	.107
PSHELL	681	1	.073
PSHELL	682	1	.127
PSHELL	683	1	.100
PSHELL	684	1	.068
PSHELL	701	701	.175
PSHELL	702	702	.121
PSHELL	703	703	.093
PSHELL	704	704	.085
PSHELL	705	705	.074
PSHELL	706	706	.230
PSHELL	707	707	.132
PSHELL	708	708	.097
PSHELL	709	709	.085
PSHELL	710	710	.072
RBAR	23	283	.407 123456
RBAR	24	281	.409 123456
RBAR	91	31	1031 123456 123
RBAR	92	31	2031 123456 123
RBAR	93	34	1034 123456 123
RBAR	94	34	2034 123456 123
RBAR	95	37	1037 123456 123
RBAR	96	37	2037 123456 123
RBAR	97	40	1040 123456 123
RBAR	98	40	2040 123456 123
RBAR	99	45	1045 123456 123
RBAR	100	45	2045 123456 123
RBAR	101	48	1048 123456 123
RBAR	102	48	2048 123456 123
RBAR	103	54	1054 123456 123
RBAR	104	54	2054 123456 123
RBAR	105	57	1057 123456 123
RBAR	106	57	2057 123456 123
RBAR	107	66	1066 123456 123
RBAR	108	66	2066 123456 123
RBAR	109	69	1069 123456 123
RBAR	110	69	2069 123456 123
RBAR	111	79	1079 123456 123
RBAR	112	79	2079 123456 123
RBAR	113	82	1082 123456 123
RBAR	114	82	2082 123456 123

RBAR	115	94	1094 123456 123
RBAR	116	94	2094 123456 123
RBAR	117	114	1114 123456 123
RBAR	118	114	2114 123456 123
RBAR	119	121	1121 123456 123
RBAR	120	121	2121 123456 123
RBAR	121	34	35 123456 123
RBAR	122	40	41 123456 123
RBAR	123	48	49 123456 123
RBAR	124	57	58 123456 123
RBAR	125	69	70 123456 123
RBAR	126	82	83 123456 123
RBAR	127	115	116 123456 123
RBAR	128	33	31 123456 123
RBAR	129	39	37 123456 123
RBAR	130	47	45 123456 123
RBAR	131	56	54 123456 123
RBAR	132	68	66 123456 123
RBAR	133	81	121 123456 123
RBAR	215	275	1275 123456 123
RBAR	216	275	2275 123456 123
RBAR	217	276	1276 123456 123
RBAR	218	276	2276 123456 123
RBAR	219	280	1280 123456 123
RBAR	220	280	2280 123456 123
RBAR	221	290	1290 123456 123
RBAR	222	290	2290 123456 123
RBAR	223	292	1292 123456 123
RBAR	224	292	2292 123456 123
RBAR	225	293	1293 123456 123
RBAR	226	293	2293 123456 123
RBAR	227	464	1464 123456 123
RBAR	228	464	2464 123456 123
RBAR	229	465	1465 123456 123
RBAR	230	465	2465 123456 123
RBAR	231	466	1466 123456 123
RBAR	232	466	2466 123456 123
RBAR	233	467	1467 123456 123
RBAR	234	467	2467 123456 123
RBAR	235	293	294 123456 123
RBAR	236	290	291 123456 123
RBAR	237	276	277 123456 123
RBAR	238	298	195 123456 12456
RBAR	239	284	196 123456 12456
RBAR	1311	19	1019 123456 123
RBAR	1312	19	2019 123456 123
RBAR	1313	20	1020 123456 123
RBAR	1314	20	2020 123456 123
RBAR	1315	21	1021 123456 123
RBAR	1316	21	2021 123456 123
RBAR	1317	22	1022 123456 123
RBAR	1318	22	2022 123456 123
RBAR	1319	23	1023 123456 123
RBAR	1320	23	2023 123456 123
RBAR	1321	24	1024 123456 123
RBAR	1322	24	2024 123456 123
RBAR	1323	25	1025 123456 123
RBAR	1324	25	2025 123456 123
RBAR	1325	26	1026 123456 123
RBAR	1326	26	2026 123456 123
RBAR	1327	27	1027 123456 123
RBAR	1328	27	2027 123456 123
RBAR	1329	29	1029 123456 123
RBAR	1330	29	2029 123456 123
RBAR	1331	30	1030 123456 123
RBAR	1332	30	2030 123456 123
RBAR	1333	32	1032 123456 123
RBAR	1334	32	2032 123456 123
RBAR	1335	33	1033 123456 123
RBAR	1336	33	2033 123456 123
RBAR	1337	38	1038 123456 123
RBAR	1338	38	2038 123456 123
RBAR	1339	39	1039 123456 123
RBAR	1340	39	2039 123456 123
RBAR	1341	44	1044 123456 123
RBAR	1342	44	2044 123456 123
RBAR	1343	46	1046 123456 123
RBAR	1344	46	2046 123456 123
RBAR	1345	47	1047 123456 123
RBAR	1346	47	2047 123456 123
RBAR	1347	51	1051 123456 123
RBAR	1348	51	2051 123456 123
RBAR	1349	52	1052 123456 123
RBAR	1350	52	2052 123456 123
RBAR	1351	53	1053 123456 123
RBAR	1352	53	2053 123456 123
RBAR	1353	55	1055 123456 123
RBAR	1354	55	2055 123456 123
RBAR	1355	56	1056 123456 123
RBAR	1356	56	2056 123456 123
RBAR	1357	60	1060 123456 123
RBAR	1358	60	2060 123456 123
RBAR	1359	61	1061 123456 123
RBAR	1360	61	2061 123456 123
RBAR	1361	62	1062 123456 123
RBAR	1362	62	2062 123456 123
RBAR	1363	63	1063 123456 123
RBAR	1364	63	2063 123456 123
RBAR	1365	64	1064 123456 123
RBAR	1366	64	2064 123456 123
RBAR	1367	65	1065 123456 123
RBAR	1368	65	2065 123456 123
RBAR	1369	67	1067 123456 123
RBAR	1370	67	2067 123456 123
RBAR	1371	68	1068 123456 123
RBAR	1372	68	2068 123456 123
RBAR	1373	72	1072 123456 123
RBAR	1374	72	2072 123456 123
RBAR	1375	73	1073 123456 123
RBAR	1376	73	2073 123456 123
RBAR	1377	74	1074 123456 123
RBAR	1378	74	2074 123456 123
RBAR	1379	75	1075 123456 123
RBAR	1380	75	2075 123456 123



RBAR	1381	76	1076	123456	123
RBAR	1382	76	2076	123456	123
RBAR	1383	77	1077	123456	123
RBAR	1384	77	2077	123456	123
RBAR	1385	78	1078	123456	123
RBAR	1386	78	2078	123456	123
RBAR	1387	80	1080	123456	123
RBAR	1388	80	2080	123456	123
RBAR	1389	81	1081	123456	123
RBAR	1390	81	2081	123456	123
RBAR	1391	85	1085	123456	123
RBAR	1392	85	2085	123456	123
RBAR	1393	86	1086	123456	123
RBAR	1394	86	2086	123456	123
RBAR	1395	87	1087	123456	123
RBAR	1396	87	2087	123456	123
RBAR	1397	88	1088	123456	123
RBAR	1398	88	2088	123456	123
RBAR	1407	143	1143	123456	123
RBAR	1408	143	2143	123456	123
RBAR	1409	181	1181	123456	123
RBAR	1410	181	2181	123456	123
RBAR	1411	182	1182	123456	123
RBAR	1412	182	2182	123456	123
RBAR	1413	183	1183	123456	123
RBAR	1414	183	2183	123456	123
RBAR	1415	184	1184	123456	123
RBAR	1416	184	2184	123456	123
RBAR	1417	185	1185	123456	123
RBAR	1418	185	2185	123456	123
RBAR	1419	186	1186	123456	123
RBAR	1420	186	2186	123456	123
RBAR	1421	187	1187	123456	123
RBAR	1422	187	2187	123456	123
RBAR	1423	188	1188	123456	123
RBAR	1424	188	2188	123456	123
RBAR	1425	189	1189	123456	123
RBAR	1426	189	2189	123456	123
RBAR	1427	190	1190	123456	123
RBAR	1428	190	2190	123456	123
RBAR	1429	191	1191	123456	123
RBAR	1430	191	2191	123456	123
RBAR	1431	192	1192	123456	123
RBAR	1432	192	2192	123456	123
RBAR	1433	193	1193	123456	123
RBAR	1434	193	2193	123456	123
RBAR	1435	242	1242	123456	123
RBAR	1436	242	2242	123456	123
RBAR	1437	243	1243	123456	123
RBAR	1438	243	2243	123456	123
RBAR	1439	244	1244	123456	123
RBAR	1440	244	2244	123456	123
RBAR	1441	245	1245	123456	123
RBAR	1442	245	2245	123456	123
RBAR	1451	1	1001	123456	123
RBAR	1452	1	2001	123456	123
RBAR	1453	2	1002	123456	123
RBAR	1454	2	2002	123456	123
RBAR	1455	3	1003	123456	123
RBAR	1456	3	2003	123456	123
RBAR	1457	4	1004	123456	123
RBAR	1458	4	2004	123456	123
RBAR	1459	5	1005	123456	123
RBAR	1460	5	2005	123456	123
RBAR	1461	6	1006	123456	123
RBAR	1462	6	2006	123456	123
RBAR	1463	7	1007	123456	123
RBAR	1464	7	2007	123456	123
RBAR	1465	8	1008	123456	123
RBAR	1466	8	2008	123456	123
RBAR	1467	10	1010	123456	123
RBAR	1468	10	2010	123456	123
RBAR	1469	12	1012	123456	123
RBAR	1470	12	2012	123456	123
RBAR	1471	14	1014	123456	123
RBAR	1472	14	2014	123456	123
RBAR	1473	16	1016	123456	123
RBAR	1474	16	2016	123456	123
RBAR	1475	18	1018	123456	123
RBAR	1476	18	2018	123456	123
RBAR	1477	173	1173	123456	123
RBAR	1478	173	2173	123456	123
RBAR	1479	174	1174	123456	123
RBAR	1480	174	2174	123456	123
RBAR	1481	175	1175	123456	123
RBAR	1482	175	2175	123456	123
RBAR	1483	176	1176	123456	123
RBAR	1484	176	2176	123456	123
RBAR	1485	177	1177	123456	123
RBAR	1486	177	2177	123456	123
RBAR	1487	178	1178	123456	123
RBAR	1488	178	2178	123456	123
RBAR	1489	179	1179	123456	123
RBAR	1490	179	2179	123456	123
RBAR	1491	180	1180	123456	123
RBAR	1492	180	2180	123456	123
RBAR	1493	194	1194	123456	123
RBAR	1494	194	2194	123456	123
RBAR	1501	96	1096	123456	123
RBAR	1502	96	2096	123456	123
RBAR	1503	97	1097	123456	123
RBAR	1504	97	2097	123456	123
RBAR	1505	98	1098	123456	123
RBAR	1506	98	2098	123456	123
RBAR	1507	99	1099	123456	123
RBAR	1508	99	2099	123456	123
RBAR	1509	100	1100	123456	123
RBAR	1510	100	2100	123456	123
RBAR	1511	101	1101	123456	123
RBAR	1512	101	2101	123456	123
RBAR	1513	102	1102	123456	123
RBAR	1514	102	2102	123456	123
RBAR	1515	103	1103	123456	123
RBAR	1516	103	2103	123456	123

RBAR	1517	104	1104	123456	123
RBAR	1518	104	2104	123456	123
RBAR	1519	105	1105	123456	123
RBAR	1520	105	2105	123456	123
RBAR	1521	106	1106	123456	123
RBAR	1522	106	2106	123456	123
RBAR	1523	107	1107	123456	123
RBAR	1524	107	2107	123456	123
RBAR	1525	108	1108	123456	123
RBAR	1526	108	2108	123456	123
RBAR	1527	109	1109	123456	123
RBAR	1528	109	2109	123456	123
RBAR	1529	110	1110	123456	123
RBAR	1530	110	2110	123456	123
RBAR	1531	111	1111	123456	123
RBAR	1532	111	2111	123456	123
RBAR	1533	112	1112	123456	123
RBAR	1534	112	2112	123456	123
RBAR	1535	113	1113	123456	123
RBAR	1536	113	2113	123456	123
RBAR	1537	125	1125	123456	123
RBAR	1538	125	2125	123456	123
RBAR	1539	126	1126	123456	123
RBAR	1540	126	2126	123456	123
RBAR	1541	127	1127	123456	123
RBAR	1542	127	2127	123456	123
RBAR	1543	128	1128	123456	123
RBAR	1544	128	2128	123456	123
RBAR	1545	129	1129	123456	123
RBAR	1546	129	2129	123456	123
RBAR	1547	130	1130	123456	123
RBAR	1548	130	2130	123456	123
RBAR	1549	131	1131	123456	123
RBAR	1550	131	2131	123456	123
RBAR	1551	132	1132	123456	123
RBAR	1552	132	2132	123456	123
RBAR	1553	133	1133	123456	123
RBAR	1554	133	2133	123456	123
RBAR	1555	134	1134	123456	123
RBAR	1556	134	2134	123456	123
RBAR	1557	135	1135	123456	123
RBAR	1558	135	2135	123456	123
RBAR	1559	136	1136	123456	123
RBAR	1560	136	2136	123456	123
RBAR	1561	137	1137	123456	123
RBAR	1562	137	2137	123456	123
RBAR	1563	138	1138	123456	123
RBAR	1564	138	2138	123456	123
RBAR	1565	139	1139	123456	123
RBAR	1566	139	2139	123456	123
RBAR	1567	140	1140	123456	123
RBAR	1568	140	2140	123456	123
RBAR	1569	141	1141	123456	123
RBAR	1570	141	2141	123456	123
RBAR	1571	142	1142	123456	123
RBAR	1572	142	2142	123456	123
RBAR	2235	501	1501	123456	123
RBAR	2236	501	2501	123456	123
RBAR	2237	502	1502	123456	123
RBAR	2238	502	2502	123456	123
RBAR	2239	503	1503	123456	123
RBAR	2240	503	2503	123456	123
RBAR	2241	504	1504	123456	123
RBAR	2242	504	2504	123456	123
RBAR	2243	505	1505	123456	123
RBAR	2244	505	2505	123456	123
RBAR	2245	506	1506	123456	123
RBAR	2246	506	2506	123456	123
RBAR	2247	507	1507	123456	123
RBAR	2248	507	2507	123456	123
RBAR	2249	508	1508	123456	123
RBAR	2250	508	2508	123456	123
RBAR	2251	509	1509	123456	123
RBAR	2252	509	2509	123456	123
RBAR	2253	510	1510	123456	123
RBAR	2254	510	2510	123456	123
RBAR	2255	511	1511	123456	123
RBAR	2256	511	2511	123456	123
RBAR	2257	512	1512	123456	123
RBAR	2258	512	2512	123456	123
RBAR	2259	513	1513	123456	123
RBAR	2260	513	2513	123456	123
RBAR	2261	514	1514	123456	123
RBAR	2262	514	2514	123456	123
RBAR	2263	515	1515	123456	123
RBAR	2264	515	2515	123456	123
RBAR	2265	516	1516	123456	123
RBAR	2266	516	2516	123456	123
RBAR	2267	517	1517	123456	123
RBAR	2268	517	2517	123456	123
RBAR	2269	518	1518	123456	123
RBAR	2270	518	2518	123456	123
RBAR	2271	519	1519	123456	123
RBAR	2272	519	2519	123456	123
RBAR	2273	520	1520	123456	123
RBAR	2274	520	2520	123456	123
RBAR	2275	521	1521	123456	123
RBAR	2276	521	2521	123456	123
RBAR	2277	522	1522	123456	123
RBAR	2278	522	2522	123456	123
RBAR	2279	523	1523	123456	123
RBAR	2280	523	2523	123456	123
RBAR	2281	524	1524	123456	123
RBAR	2282				



RBAR	3111	3047	3065	123456		123	
RBAR	3112	3048	3066	123456		123	
RBAR	3113	3053	3067	123456		123	
RBAR	3114	3055	3068	123456		123	
RBAR	3115	3047	3069	123456		123	
RBAR	3116	3048	3070	123456		123	
RBAR	3419	3203	182	123456		123	
RBAR	3420	3203	183	123456		123	
RBAR	3421	3205	185	123456		123	
RBAR	3422	3205	186	123456		123	
RBAR	3423	3201	3204	123456		5	
RBAR	3424	3204	3207	123456		3	
RBAR	3425	3208	3212	123456		3	
RBAR	3426	3208	3209	123456		123	
SPC1	3	1	359	360	361	362	367
SPC1	3	1	368	369	370	371	381
SPC1	3	1	383	384	385	386	389
SPC1	3	1	390	391	392	393	408
SPC1	3	156	36	42	50	437	59
SPC1	3	156	71	84	298	286	117
SPC1	3	156	163	164	153	154	155
SPC1	3	156	267	268	458	459	156
SPC1	3	156	283	284	282	281	405
SPC1	4	234	36	42	50	437	59
SPC1	4	234	71	84	298	286	117
SPC1	4	234	163	164	153	154	155
SPC1	4	234	267	268	458	459	156
SPC1	4	234	283	284	282	281	405
SPC1	5	4	3022				
SPC1	5	4	3047				
SPC1	5	456	251	256	261	262	266
SPC1	5	456	1001	1002	1003	1004	1005
SPC1	5	456	1007	1008	1010	1012	1014
SPC1	5	456	1018	1173	1174	1175	1176
SPC1	5	456	1019	THRU	1027		1177
SPC1	5	456	1029	1030	1032	1033	1038
SPC1	5	456	1031	1034	1037	1040	1045
SPC1	5	456	1044	1046	1047	1051	1052
SPC1	5	456	1054	1057	1066	1069	1079
SPC1	5	456	1055	1056	1060	1061	1062
SPC1	5	456	1064	1065	1067	1068	1072
SPC1	5	456	1074	1075	1076	1077	1078
SPC1	5	456	1079	1114	1275	1276	1280
SPC1	5	456	1081	1085	1086	1087	1088
SPC1	5	456	1094	1114	1121		1290
SPC1	5	456	1096	1097	1098	1099	1100
SPC1	5	456	1102	1103	1104	1105	1106
SPC1	5	456	1108	1109	1110	1111	1112

SPC1	5	456	1125	1126	1127		
SPC1	5	456	1128	1129	1130	1131	1132
SPC1	5	456	1134	1135	1136	1137	1138
SPC1	5	456	1140	1141	1142		1139
SPC1	5	456	1143				
SPC1	5	456	1178	1179	1180	1194	
SPC1	5	456	1181	THRU	1193		
SPC1	5	456	1233	2233			
SPC1	5	456	1242	1243	1244	1245	
SPC1	5	456	1251	THRU	1266		
SPC1	5	456	1292	1293	1464	1465	1466
SPC1	5	456	1501	THRU	1526		1467
SPC1	5	456	2001	2002	2003	2004	2005
SPC1	5	456	2007	2008	2010	2012	2014
SPC1	5	456	2018	2173	2174	2175	2016
SPC1	5	456	2019	THRU	2027	2176	2177
SPC1	5	456	2029	2030	2032	2033	2038
SPC1	5	456	2031	2034	2037	2040	2039
SPC1	5	456	2044	2046	2047	2051	2048
SPC1	5	456	2054	2057	2066	2069	2053
SPC1	5	456	2055	2056	2060	2061	2082
SPC1	5	456	2064	2065	2067	2068	2062
SPC1	5	456	2074	2075	2076	2077	2073
SPC1	5	456	2079	2114	2275	2276	2078
SPC1	5	456	2081	2085	2086	2087	2080
SPC1	5	456	2094	2114	2121		2280
SPC1	5	456	2096	2097	2098	2099	2088
SPC1	5	456	2102	2103	2104	2105	2101
SPC1	5	456	2108	2109	2110	2111	2106
SPC1	5	456	2125	2126	2127	2112	2107
SPC1	5	456	2128	2129	2130	2131	2113
SPC1	5	456	2134	2135	2136	2137	2132
SPC1	5	456	2140	2141	2142		2133
SPC1	5	456	2143				2139
SPC1	5	456	2178	2179	2180	2194	
SPC1	5	456	2181	THRU	2193		
SPC1	5	456	2242	2243	2244	2245	
SPC1	5	456	2251	THRU	2266		
SPC1	5	456	2292	2293	2464	2465	2466
SPC1	5	456	2501	THRU	2526		2467
SPC1	5	456	3063	3064	3065	3066	
SPC1	5	456	3067	3068	3069	3070	
SPC1	5	123456	701	702	703		
SPCADD	1	3	5				
SPCADD	2	4	5				
SUPORT	42	156					
ENDDATA							



# **Appendix C.** **Structural Finite Element Data for Nontypical LCO Case**

ID LMTAS BLOCK 40 F-16 FLUTTER FEM NONTYPICAL LCO CASE

SOL 103

TIME 20

\$

CEND

\$

TITLE=F-16 1/2 AIRPLANE FINITE ELEMENT MODEL FOR FLUTTER ANALYSIS

SUBTI=ANTI-SYMMETRIC CENTERLINE BOUNDARY CONDITIONS // FULL XWING FUEL

LABEL=CONFIG 5 = MA41

DISP=ALL

ECHO=SORT

\$ EMIG VERTICAL TAIL STIFFNESS MATRIX

K2GG=VTAIL

\$ EIGENVALUE EXTRACTION

METHOD=1

\$ SYMMETRIC B.C. / SPC=2 FOR ANTISYMMETRIC

SPC=2

\$

\$ SET 203022=GRIDS USED IN FLUTTER ANALYSIS.

\$ ADD GRIDS 801 THROUGH 814 FOR DYNAMIC RESPONSE.

\$

SET 203022= 2, 3, 4, 5, 6,

9, 11, 13, 15, 17,

19, 20, 21, 26, 29,

33, 39, 44, 47, 51,

52, 53, 56, 60, 61,

62, 64, 65, 68, 72,

73, 74, 75, 77, 78,

81, 85, 86, 87, 89,

90, 91, 92, 93, 95,

102, 103, 104, 105, 106,

107, 108, 109, 110, 111,

112, 113, 122, 123, 124,

128, 129, 130, 131, 132,

133, 3004, 3006, 3009

\$ AIM-9/16S200 OR 16S200 ON TIP

\$

\$ GENERATE BUT DO NOT PRINT-

\$ EIGENVECTORS FOR FLUTTER ANALYSIS

\$

\$ PRINT-

\$ A-SET EIGENVECTORS FOR INSPECTION

\$

OUTPUT(PLOT)

CSCALE=1.8

PAPER SIZE=26. BY 20.

\$

\$ SET 10=ELEMENTS USED IN MODE PLOTS

\$

\$ FUSELAGE CENTERLINE

SET 10= 1 THRU 26,

\$ WING BOX

1001 THRU 1005,

1007,1010 THRU 1013,

1020,1023 THRU 1025,

1031,1034,1036,1043,1045,

1046,1048 THRU 1054,

1056 THRU 1062,

1071 THRU 1074,

1078,1079,1080,

1086 THRU 1090,

1099,1100,1101,

1075,1076,1077,

1081 THRU 1085,

1091 THRU 1097,

1102 THRU 1111,

1116 THRU 1125,

1126,1127,1128,

\$ LEADING EDGE FLAP / 1258 ACTUATOR

1131 THRU 1134,

1136,1137,1138,

1140,1141,1142,

1144,1145,1146,

1148 THRU 1151,

1152 THRU 1171,

\$ FLAPERON

1181 THRU 1185,

1187 THRU 1189,

1190 THRU 1194,

1196 THRU 1203,

1205 THRU 1207,

1209 THRU 1220,

1231 THRU 1238,

1251 THRU 1258,

1261 THRU 1268,

\$ HORIZONTAL TAIL

2001 THRU 2058,

\$ VERTICAL TAIL

2401 THRU 2460,

\$ 16S200 // STATION 1,9

3003 THRU 3009,

\$ AIM-9L // STATION 1,9

3014,3015

\$

\$ MAXIMUM DEFORMATION 35.

AXES MX,MY,Z

VIEW 60.0,30.,0.

FIND SCALE ORIGIN 10 SET 10

PLOT MODAL DEFO 0 SET 10 ORIGIN 10

\$

BEGIN BULK

ASET 3500 123456

ASET 3501 123456

ASET1	1	163	153	154	155	156	71	286
ASET1	1	267						
ASET1	1	284	281					
ASET1	1	367	408	368	359	384		
ASET1	1	373	364	381	383			
ASET1	1	386	391	371	362	387	392	393
ASET1	1	389	369	360	385	390	370	361
ASET1	1	410						
ASET1	1	3080	3082	3085				
ASET1	1	3207	3210	3211	3213			
ASET1	2	3079	3083					
ASET1	2	3206	3212					
ASET1	3	6	17	5	15	4	13	3
ASET1	3	11	2	9				
ASET1	3	19	72	20	60	73	21	61
ASET1	3	39	47	56	68	81		
ASET1	3	74	51	62	75	26	52	64
ASET1	3	77	29	44	53	65	78	33
ASET1	3	85	86	87	88			
ASET1	3	90	103	109	89	102	108	
ASET1	3	95	107	113	93	106	112	124
ASET1	3	130	133	92	105	111	123	129
ASET1	3	132	91	104	110	122	128	131
ASET1	3	233						
ASET1	3	251	THRU	266				
ASET1	3	3002	3004	3006	3009			
ASET1	3	3076	3080	3081	3085			
ASET1	3	3204	3210	3211	3213			
ASET1	4	3204	3211					
ASET1	5	153	154	155	156	71	286	284
ASET1	5	410						
ASET1	5	459						
ASET1	5	3211						
ASET1	6	437	281	410				
ASET1	6	458						
ASET1	6	3207	3211					
ASET1	123456	3088						
CBAR	27	27	284	410	1.	1.	0.	
CBAR	2401	2401	407	367	0.	1.	1.	
CBAR	2402	2402	367	368	0.	1.	1.	
CBAR	2403	2403	368	369	0.	1.	1.	
CBAR	2404	2404	369	370	0.	1.	1.	
CBAR	2405	2405	370	371	0.	1.	1.	
CBAR	2406	2406	371	372	0.	1.	1.	
CBAR	2407	2407	372	373	0.	1.	1.	
CBAR	2408	2408	373	374	0.	1.	1.	
CBAR	2409	2409	374	375	0.	1.	1.	
CBAR	2410	2410	375	376	0.	1.	1.	
CBAR	2411	2411	376	377	0.	1.	1.	
CBAR	2412	2412	377	378	0.	1.	1.	
CBAR	2413	2413	378	379	0.	1.	1.	
CBAR	2414	2414	379	380	0.	1.	1.	
CBAR	2415	2415	380	381	0.	1.	1.	
CBAR	2416	2416	381	382	0.	1.	1.	
CBAR	2417	2417	382	383	0.	1.	1.	
CBAR	2418	2418	383	384	0.	1.	1.	
CBAR	2419	2419	384	385	0.	1.	1.	
CBAR	2420	2420	385	386	0.	1.	1.	
CBAR	2421	2421	386	387	0.	1.	1.	
CBAR	2422	2422	387	388	0.	1.	1.	
CBAR	2423	2423	388	389	0.	1.	1.	
CBAR	2424	2424	389	390	0.	1.	1.	
CBAR	2425	2425	390	391	0.	1.	1.	
CBAR	2426	2426	391	392	0.	1.	1.	
CBAR	2427	2427	392	393	0.	1.	1.	
CBAR	2428	2428	393	394	0.	1.	1.	
CBAR	2429	2429	394	395	0.	1.	1.	
CBAR	2430	2430	395	396	0.	1.	1.	
CBAR	2431	2431	396	397	0.	1.	1.	
CBAR	2432	2432	397	398	0.	1.	1.	
CBAR	2433	2433	398	399	0.	1.	1.	
CBAR	2434	2434	399	400	0.	1.	1.	
CBAR	2435	2435	400	401	0.	1.	1.	
CBAR	2436	2436	401	402	0.	1.	1.	
CBAR	2437	2437	402	403	0.	1.	1.	
CBAR	2438	2438	403	404	0.	1.	1.	
CBAR	2439	2439	404	405	0.	1.	1.	
CBAR	2440	2440	405	406	0.	1.	1.	
CBAR	2441	2441	406	407	0.	1.	1.	
CBAR	2442	2442	407	408	0.	1.	1.	
CBAR	2443	2443	408	409	0.	1.	1.	
CBAR	2444	2444	409	410	0.	1.	1.	
CBAR	2445	2445	410	411	0.	1.	1.	
CBAR	2446	2446	411	412	0.	1.	1.	
CBAR	2447	2447	412	413	0.	1.	1.	
CBAR	2448	2448	413	414	0.	1.	1.	
CBAR	2449	2449	414	415	0.	1.	1.	
CBAR	2450	2450	415	416	0.	1.	1.	
CBAR	2451	2451	416	417	0.	1.	1.	
CBAR	2452	2452	417	418	0.	1.	1.	
CBAR	2453	2453	418	419	0.	1.	1.	
CBAR	2454	2454	419	420	0.	1.	1.	
CBAR	2455	2455	420	421	0.	1.	1.	
CBAR	2456	2456	421	422	0.	1.	1.	
CBAR	2457	2457	422	423	0.	1.	1.	
CBAR	2458	2458	423	424	0.	1.	1.	
CBAR	2459	2459	424	425	0.	1.	1.	
CBAR	2460	2460	425	426	0.	1.	1.	
CBAR	3502	3502	3500	52	1.	1.	0.	
CBAR	3503	3502	3501	52	1.	1.	0.	
CBEAM	1	1	163	164	1.	0.	0.	
CBEAM	2	2	164	165	1.	0.	0.	
CBEAM	3	3	267	154	1.	0.	0.	



CBEAM	4	4	154	155	1.	0.	0.
CBEAM	5	5	155	156	1.	0.	0.
CBEAM	6	6	268	36	1.	0.	0.
CBEAM	7	7	36	42	1.	0.	0.
CBEAM	8	8	42	50	1.	0.	0.
CBEAM	9	9	50	437	1.	0.	0.
CBEAM	10	10	437	59	1.	0.	0.
CBEAM	11	11	59	431	1.	0.	0.
CBEAM	12	12	431	71	1.	0.	0.
CBEAM	13	13	71	84	1.	0.	0.
CBEAM	14	14	84	298	1.	0.	0.
CBEAM	15	15	298	286	1.	0.	0.
CBEAM	16	16	286	117	1.	0.	0.
CBEAM	17	17	117	285	1.	0.	0.
CBEAM	18	18	285	283	1.	0.	0.
CBEAM	19	19	283	284	1.	0.	0.
CBEAM	20	20	284	282	1.	0.	0.
CBEAM	21	21	282	281	1.	0.	0.
CBEAM	22	22	281	405	1.	0.	0.
CBEAM	31	31	36	35	1.	0.	0.
CBEAM	32	32	42	41	1.	0.	0.
CBEAM	33	33	50	49	1.	0.	0.
CBEAM	34	34	59	58	1.	0.	0.
CBEAM	35	35	71	70	1.	0.	0.
CBEAM	36	36	84	83	1.	0.	0.
CBEAM	37	37	117	116	1.	0.	0.
CBEAM	38	38	34	31	1.	0.	0.
CBEAM	39	39	40	37	1.	0.	0.
CBEAM	40	40	48	45	1.	0.	0.
CBEAM	41	41	57	54	1.	0.	0.
CBEAM	42	42	69	66	1.	0.	0.
CBEAM	43	43	82	94	1.	0.	0.
CBEAM	44	44	94	118	1.	0.	0.
CBEAM	45	45	118	121	1.	0.	0.
CBEAM	46	46	115	79	1.	0.	0.
CBEAM	47	47	79	120	1.	0.	0.
CBEAM	48	48	120	114	1.	0.	0.
CBEAM	49	49	31	37	1.	0.	0.
+49BM							
CBEAM	50	50	37	45	1.	0.	0.
CBEAM	51	51	45	54	1.	0.	0.
CBEAM	52	52	54	66	1.	0.	0.
CBEAM	53	53	66	121	1.	0.	0.
+53BM							
CBEAM	54	54	121	114	1.	0.	0.
+54BM							
CBEAM	55	55	118	119	1.	0.	0.
CBEAM	56	56	119	120	1.	0.	0.
CBEAM	57	57	94	79	1.	0.	0.
CBEAM	141	141	467	274	1.	0.	0.
CBEAM	142	142	274	465	1.	0.	0.
CBEAM	143	143	465	275	1.	0.	0.
CBEAM	144	144	275	278	1.	0.	0.
CBEAM	145	145	278	280	1.	0.	0.
CBEAM	146	146	280	292	1.	0.	0.
CBEAM	147	147	292	114	1.	0.	0.
+147BM							
CBEAM	148	148	466	273	1.	0.	0.
CBEAM	149	149	273	464	1.	0.	0.
CBEAM	150	150	464	276	1.	0.	0.
CBEAM	151	151	276	279	1.	0.	0.
CBEAM	152	152	279	290	1.	0.	0.
CBEAM	153	153	290	293	1.	0.	0.
CBEAM	154	154	293	79	1.	0.	0.
+154BM							
CBEAM	160	160	295	300	1.	0.	0.
CBEAM	161	161	117	300	1.	0.	0.
CBEAM	162	162	300	79	1.	0.	0.
CBEAM	163	163	79	114	1.	0.	0.
CBEAM	164	164	283	295	1.	0.	0.
CBEAM	165	165	295	294	1.	0.	0.
CBEAM	166	166	293	292	1.	0.	0.
CBEAM	167	167	282	291	1.	0.	0.
CBEAM	168	168	290	280	1.	0.	0.
CBEAM	169	169	279	271	1.	0.	0.
+169BM							
CBEAM	170	170	271	278	1.	0.	0.
+170BM							
CBEAM	171	171	281	277	1.	0.	0.
CBEAM	172	172	276	275	1.	0.	0.
CBEAM	173	173	464	465	1.	0.	0.
CBEAM	174	174	466	467	1.	0.	0.
CBEAM	175	175	271	272	1.	0.	0.
+175BM							
CBEAM	176	176	273	241	1.	0.	0.
CBEAM	177	177	241	299	1.	0.	0.
CBEAM	178	178	299	272	1.	0.	0.
CBEAM	179	179	272	274	1.	0.	0.
CBEAM	180	180	274	233	1.	0.	0.
CBEAM	181	181	195	296	1.	0.	0.
+181BM							
CBEAM	182	182	296	196	1.	0.	0.
+182BM							
CBEAM	1001	1001	33	39	1.	0.	0.
CBEAM	1002	1002	39	47	1.	0.	0.
CBEAM	1003	1003	47	56	1.	0.	0.
CBEAM	1004	1004	56	68	1.	0.	0.
CBEAM	1005	1005	68	81	1.	0.	0.
CBEAM	1007	1007	32	38	1.	0.	0.
CBEAM	1009	1009	30	38	1.	0.	0.
CBEAM	1010	1010	38	46	1.	0.	0.
CBEAM	1011	1011	46	55	1.	0.	0.
CBEAM	1012	1012	55	67	1.	0.	0.
CBEAM	1013	1013	67	80	1.	0.	0.
CBEAM	1014	1014	181	182	1.	0.	0.
CBEAM	1015	1015	182	183	1.	0.	0.
CBEAM	1016	1016	183	184	1.	0.	0.
CBEAM	1017	1017	184	185	1.	0.	0.
CBEAM	1018	1018	185	186	1.	0.	0.
CBEAM	1020	1020	29	44	1.	0.	0.
CBEAM	1022	1022	27	44	1.	0.	0.
CBEAM	1023	1023	44	53	1.	0.	0.
CBEAM	1024	1024	53	65	1.	0.	0.
CBEAM	1025	1025	65	78	1.	0.	0.

CBEAM	1026	1026	187	188	1.	0.	0.
+1026BM							
CBEAM	1027	1027	188	189	1.	0.	0.
CBEAM	1028	1028	189	190	1.	0.	0.
CBEAM	1029	1029	190	191	1.	0.	0.
CBEAM	1031	1031	26	52	1.	0.	0.
CBEAM	1033	1033	25	52	1.	0.	0.
CBEAM	1034	1034	52	64	1.	0.	0.
CBEAM	1035	1035	64	245	1.	0.	0.
CBEAM	1036	1036	64	77	1.	0.	0.
CBEAM	1037	1037	245	77	1.	0.	0.
CBEAM	1038	1038	192	193	1.	0.	0.
CBEAM	1039	1039	193	63	1.	0.	0.
CBEAM	1040	1040	63	245	1.	0.	0.
CBEAM	1041	1041	245	76	1.	0.	0.
CBEAM	1043	1043	24	51	1.	0.	0.
CBEAM	1045	1045	23	51	1.	0.	0.
CBEAM	1046	1046	51	62	1.	0.	0.
CBEAM	1047	1047	22	62	1.	0.	0.
CBEAM	1048	1048	62	244	1.	0.	0.
CBEAM	1049	1049	244	75	1.	0.	0.
CBEAM	1050	1050	75	88	1.	0.	0.
CBEAM	1051	1051	21	61	1.	0.	0.
CBEAM	1052	1052	61	243	1.	0.	0.
CBEAM	1053	1053	243	74	1.	0.	0.
+1053BM							
CBEAM	1054	1054	74	87	1.	0.	0.
CBEAM	1056	1056	20	60	1.	0.	0.
CBEAM	1057	1057	60	242	1.	0.	0.
CBEAM	1058	1058	242	73	1.	0.	0.
+1058BM							
CBEAM	1059	1059	73	86	1.	0.	0.
CBEAM	1060	1060	19	143	1.	0.	0.
CBEAM	1061	1061	143	72	1.	0.	0.
CBEAM	1062	1062	72	85	1.	0.	0.
CBEAM	1071	1071	33	32	0.	1.	0.
CBEAM	1072	1072	32	30	0.	1.	0.
CBEAM	1073	1073	30	181	0.	1.	0.
CBEAM	1074	1074	181	29	0.	1.	0.
CBEAM	1075	1075	39	38	0.	1.	0.
CBEAM	1076	1076	38	182	0.	1.	0.
CBEAM	1077	1077	182	29	0.	1.	0.
CBEAM	1078	1078	29	27	0.	1.	0.
CBEAM	1079	1079	27	187	0.	1.	0.
CBEAM	1080	1080	187	26	0.	1.	0.
CBEAM	1081	1081	47	46	0.	1.	0.
CBEAM	1082	1082	46	183	0.	1.	0.
CBEAM	1083	1083	183	44	0.	1.	0.
CBEAM	1084	1084	44	188	0.	1.	0.
CBEAM	1085	1085	188	26	0.	1.	0.
CBEAM	1086	1086	26	25	0.	1.	0.
CBEAM	1087	1087	25	192	0.	1.	0.
CBEAM	1088	1088	192	24	0.	1.	0.
CBEAM	1089	1089	24	23	0.	1.	0.
CBEAM	1090	1090	23	22	0.	1.	0.
CBEAM	1091	1091	56	55	0.	1.	0.
CBEAM	1092	1092	55	184	0.	1.	0.
CBEAM	1093	1093	184	53	0.	1.	0.
CBEAM	1094	1094	53	189	0.	1.	0.
CBEAM	1095	1095	189	52	0.	1.	0.
CBEAM	1096	1096	52	193	0.	1.	0.
CBEAM	1097	1097	193	51	0.	1.	0.
CBEAM	1098	1098	51	22	0.	1.	0.
+1098BM							
CBEAM	1099	1099	22	21	0.	1.	0.
CBEAM	1100	1100	21	20	0.	1.	0.
CBEAM	1101	1101	20	19	0.	1.	0.
CBEAM	1102	1102	68	67	0.	1.	0.
CBEAM	1103	1103	67	185	0.	1.	0.
CBEAM	1104	1104	185	65	0.	1.	0.
CBEAM	1105	1105	65	190	0.	1.	0.
CBEAM	1106	1106	190	64	0.	1.	0.
CBEAM	1107	1107	64	63	0.	1.	0.
CBEAM	1108	1108	63	62	0.	1.	0.
CBEAM	1109	1109	62	61	0.	1.	0.
CBEAM	1110	1110	61	60	0.	1.	0.
CBEAM	1111	1111	60	19	0.	1.	0.
CBEAM	1112	1112	245	244	0.	1.	0.
CBEAM	1113	1113	244	243	0.	1.	0.
CBEAM	1114	1114	243	242	0.	1.	0.
CBEAM	1115	1115	242	143	0.	1.	0.
CBEAM	1116	1116	81	80	0.	1.	0.
CBEAM	1117	1117	80	186	0.	1.	0.
CBEAM	1118	1118	186	78	0.	1.	0.
CBEAM	1119	1119	78	191	0.	1.	0.
CBEAM	1120	1120	191	77	0.	1.	0.
CBEAM	1121	1121	77	76	0.	1.	0.
CBEAM	1122	1122	76	75	0.	1.	0.
CBEAM	1123	1123	75	74	0.	1.	0.
CBEAM	1124	1124	74	73	0.	1.	0.
CBEAM	1125	1125	7				



CBEAM	1147	1147	173	177	1.	0.	0.	
CBEAM	1148	1148	2	194	1.	0.	0.	
CBEAM	1149	1149	194	9	1.	0.	0.	
CBEAM	1150	1150	9	20	1.	0.	0.	+BM1150
+BM1150	5							
CBEAM	1151	1151	1	8	1.	0.	0.	
CBEAM	1152	1152	6	7	1.	0.	0.	
CBEAM	1153	1153	176	6	1.	0.	0.	
CBEAM	1154	1154	5	176	1.	0.	0.	
CBEAM	1155	1155	175	5	1.	0.	0.	
CBEAM	1156	1156	4	175	1.	0.	0.	
CBEAM	1157	1157	174	4	1.	0.	0.	
CBEAM	1158	1158	3	174	1.	0.	0.	
CBEAM	1159	1159	173	3	1.	0.	0.	
CBEAM	1160	1160	2	173	1.	0.	0.	
CBEAM	1161	1161	1	2	1.	0.	0.	
CBEAM	1162	1162	16	18	1.	0.	0.	
CBEAM	1163	1163	180	16	1.	0.	0.	
CBEAM	1164	1164	14	180	1.	0.	0.	
CBEAM	1165	1165	179	14	1.	0.	0.	
CBEAM	1166	1166	12	179	1.	0.	0.	
CBEAM	1167	1167	178	12	1.	0.	0.	
CBEAM	1168	1168	10	178	1.	0.	0.	
CBEAM	1169	1169	177	10	1.	0.	0.	
CBEAM	1170	1170	194	177	1.	0.	0.	
CBEAM	1171	1171	8	194	1.	0.	0.	
CBEAM	1181	1181	81	95	1.	0.	0.	+BM1181
+BM1181	456							
CBEAM	1182	1182	95	142	1.	0.	0.	
CBEAM	1183	1183	142	101	1.	0.	0.	
CBEAM	1184	1184	101	107	1.	0.	0.	
CBEAM	1185	1185	107	113	1.	0.	0.	
CBEAM	1186	1186	93	141	1.	0.	0.	
CBEAM	1187	1187	141	100	1.	0.	0.	
CBEAM	1188	1188	100	106	1.	0.	0.	
CBEAM	1189	1189	106	112	1.	0.	0.	
CBEAM	1190	1190	186	124	1.	0.	0.	+BM1190
+BM1190	456							
CBEAM	1191	1191	124	140	1.	0.	0.	
CBEAM	1192	1192	140	127	1.	0.	0.	
CBEAM	1193	1193	127	130	1.	0.	0.	
CBEAM	1194	1194	130	133	1.	0.	0.	
CBEAM	1195	1195	92	139	1.	0.	0.	
CBEAM	1196	1196	139	99	1.	0.	0.	
CBEAM	1197	1197	99	105	1.	0.	0.	
CBEAM	1198	1198	105	111	1.	0.	0.	
CBEAM	1199	1199	191	123	1.	0.	0.	+BM1199
+BM1199	456							
CBEAM	1200	1200	123	138	1.	0.	0.	
CBEAM	1201	1201	138	126	1.	0.	0.	
CBEAM	1202	1202	126	129	1.	0.	0.	
CBEAM	1203	1203	129	132	1.	0.	0.	
CBEAM	1204	1204	91	137	1.	0.	0.	
CBEAM	1205	1205	137	98	1.	0.	0.	
CBEAM	1206	1206	98	104	1.	0.	0.	
CBEAM	1207	1207	104	110	1.	0.	0.	
CBEAM	1208	1208	122	136	1.	0.	0.	
CBEAM	1209	1209	136	125	1.	0.	0.	
CBEAM	1210	1210	125	128	1.	0.	0.	
CBEAM	1211	1211	128	131	1.	0.	0.	
CBEAM	1212	1212	76	90	1.	0.	0.	+BM1212
+BM1212	456							
CBEAM	1213	1213	90	135	1.	0.	0.	
CBEAM	1214	1214	135	97	1.	0.	0.	
CBEAM	1215	1215	97	103	1.	0.	0.	
CBEAM	1216	1216	103	109	1.	0.	0.	
CBEAM	1217	1217	89	134	1.	0.	0.	
CBEAM	1218	1218	134	96	1.	0.	0.	
CBEAM	1219	1219	96	102	1.	0.	0.	
CBEAM	1220	1220	102	108	1.	0.	0.	
CBEAM	1231	1231	141	142	1.	0.	0.	
CBEAM	1232	1232	140	141	1.	0.	0.	
CBEAM	1233	1233	139	140	1.	0.	0.	
CBEAM	1234	1234	138	139	1.	0.	0.	
CBEAM	1235	1235	137	138	1.	0.	0.	
CBEAM	1236	1236	136	137	1.	0.	0.	
CBEAM	1237	1237	135	136	1.	0.	0.	
CBEAM	1238	1238	134	135	1.	0.	0.	
CBEAM	1241	1241	100	101	1.	0.	0.	
CBEAM	1242	1242	127	100	1.	0.	0.	
CBEAM	1243	1243	99	127	1.	0.	0.	
CBEAM	1244	1244	126	99	1.	0.	0.	
CBEAM	1245	1245	98	126	1.	0.	0.	
CBEAM	1246	1246	125	98	1.	0.	0.	
CBEAM	1247	1247	97	125	1.	0.	0.	
CBEAM	1248	1248	96	97	1.	0.	0.	
CBEAM	1251	1251	106	107	1.	0.	0.	
CBEAM	1252	1252	130	106	1.	0.	0.	
CBEAM	1253	1253	105	130	1.	0.	0.	
CBEAM	1254	1254	129	105	1.	0.	0.	
CBEAM	1255	1255	104	129	1.	0.	0.	
CBEAM	1256	1256	128	104	1.	0.	0.	
CBEAM	1257	1257	103	128	1.	0.	0.	
CBEAM	1258	1258	102	103	1.	0.	0.	
CBEAM	1261	1261	112	113	1.	0.	0.	
CBEAM	1262	1262	133	112	1.	0.	0.	
CBEAM	1263	1263	111	133	1.	0.	0.	
CBEAM	1264	1264	132	111	1.	0.	0.	
CBEAM	1265	1265	110	132	1.	0.	0.	
CBEAM	1266	1266	131	110	1.	0.	0.	
CBEAM	1267	1267	109	131	1.	0.	0.	
CBEAM	1268	1268	108	109	1.	0.	0.	
CBEAM	2001	2001	251	506	1.	1.	0.	+BM2001
+BM2001	456							
CBEAM	2002	2002	506	233	1.	1.	0.	
CBEAM	2003	2003	233	517	1.	1.	0.	
CBEAM	2004	2004	517	262	1.	1.	0.	+BM2004
+BM2004	456							
CBEAM	2005	2005	252	507	1.	1.	0.	+BM2005
+BM2005	456							
CBEAM	2006	2006	507	257	1.	1.	0.	
CBEAM	2007	2007	257	518	1.	1.	0.	
CBEAM	2008	2008	518	262	1.	1.	0.	+BM2008
+BM2008	456							

CBEAM	2009	2009	253	508	1.	1.	0.	+BM2009
+BM2009	456							
CBEAM	2010	2010	508	258	1.	1.	0.	
CBEAM	2011	2011	258	519	1.	1.	0.	
CBEAM	2012	2012	519	263	1.	1.	0.	+BM2012
+BM2012	456							
CBEAM	2013	2013	254	509	1.	1.	0.	+BM2013
+BM2013	456							
CBEAM	2014	2014	509	259	1.	1.	0.	
CBEAM	2015	2015	259	520	1.	1.	0.	
CBEAM	2016	2016	520	264	1.	1.	0.	+BM2016
+BM2016	456							
CBEAM	2017	2017	255	510	1.	1.	0.	+BM2017
+BM2017	456							
CBEAM	2018	2018	510	260	1.	1.	0.	
CBEAM	2019	2019	260	521	1.	1.	0.	
CBEAM	2020	2020	521	265	1.	1.	0.	+BM2020
+BM2020	456							
CBEAM	2021	2021	256	511	1.	1.	0.	+BM2021
+BM2021	456							
CBEAM	2022	2022	511	261	1.	1.	0.	+BM2022
+BM2022	456							
CBEAM	2023	2023	261	522	1.	1.	0.	+BM2023
+BM2023	456							
CBEAM	2024	2024	522	266	1.	1.	0.	+BM2024
+BM2024	456							
CBEAM	2031	2031	251	501	1.	1.	0.	+BM2031
+BM2031	456							
CBEAM	2032	2032	501	252	1.	1.	0.	
CBEAM	2033	2033	252	502	1.	1.	0.	
CBEAM	2034	2034	502	253	1.	1.	0.	
CBEAM	2035	2035	253	503	1.	1.	0.	
CBEAM	2036	2036	503	254	1.	1.	0.	
CBEAM	2037	2037	254	504	1.	1.	0.	
CBEAM	2038	2038	504	255	1.	1.	0.	
CBEAM	2039	2039	255	505	1.	1.	0.	
CBEAM	2040	2040	505	256	1.	1.	0.	+BM2040
+BM2040	456							
CBEAM	2041	2041	233	512	1.	1.	0.	
CBEAM	2042	2042	512	257	1.	1.	0.	
CBEAM	2043	2043	257	513	1.	1.	0.	
CBEAM	2044	2044	513	258	1.	1.	0.	
CBEAM	2045	2045	258	514	1.	1.	0.	
CBEAM	2046	2046	514	259	1.	1.	0.	
CBEAM	2047	2047	259	515	1.	1.	0.	
CBEAM	2048	2048	515	260	1.	1.	0.	
CBEAM	2049	2049	260	516	1.	1.	0.	
CBEAM	2050	2050	516	261	1.	1.	0.	+BM2050
+BM2050	456							
CBEAM	2051	2051	262	523	1.	1.	0.	+BM2051
+BM2051	456							
CBEAM	2052	2052	523	263	1.	1.	0.	
CBEAM	2053	2053	263	524	1.	1.	0.	
CBEAM	2054	2054	524	264	1.	1.	0.	
CBEAM	2055	2055	264	525	1.	1.	0.	
CBEAM	2056	2056	525	265	1.	1.	0.	
CBEAM	2057	2057	265	526	1.	1.	0.	
CBEAM	2058	2058	526	266	1.	1.	0.	+BM2058
+BM2058	456							
CBEAM	3001	3001	19	3007	0.	1.	0.	
CBEAM	3002	3002	3001	3008	0.	1.	0.	
CBEAM	3003	3003	3002	3003	1.	0.	0.	
CBEAM	3004	3004	3003	3004	1.	0.	0.	
CBEAM	3005	3005	3004	3005	1.	0.	0.	
CBEAM	3006	3006	3005	3006	1.	0.	0.	
CBEAM	3007	3007	3006	3007	1.	0.	0.	
CBEAM	3008	3008	3007	3008	1.	0.	0.	
CBEAM	3009	3009	3008	3009	1.	0.	0.	+3009
+3009	5							
CBEAM	3131	3131	21	3076	0.	0.	1.	+3131
+3131	56							
CBEAM	3132	3132	3076	61	0.	0.	1.	+3132
+3132	56							
CBEAM	3133	3133	3076	3079	0.	1.	0.	+3133
+3133	5							
CBEAM	3134	3133	3079	3083	0.	1.	0.	
CBEAM	3135	3135	3082	3077	0.	1.	0.	
CBEAM	3136	3136	3077	3078	0.	0.	1.	+3136
+3136	6							
CBEAM	3137	3137	3084	3078	0.	1.	0.	+3137
+3137	6							
CBEAM	3138	3138	3082	3083	0.	0.	1.	+3138
+3138	56							
CBEAM	3139	3138	3083	3084	0.	0.	1.	+3139
+3139	56							
CBEAM	3140	3140	3080	3081	0.	0.	1.	
CBEAM	3141	3140	3081	3082	0.	0.	1.	
CBEAM	3142	3140	3082	3084	0.	0.	1.	
CBEAM	3143	3140	3084	3085	0.	0.	1.	
CBEAM	3144	3144	3080	3081	0.	0.	1.	+3144
CBEAM	3145	3145	3081	3082	0.	0.	1.	
CBEAM	3146	3146	3082	3084	0.	0.	1.	
CBEAM	3147	3147	3084	3085	0.	0.	1.	+3147
+3147	5							
CBEAM	3155	3155	3080	3087	0.	1.	0.	+3155
+3155	46							
CBEAM	3156	3156	3081	3089	0.	1.	0.	
CBEAM	3157	3155	3085	3090	0.	1.	0.	+3157
+3157	246							
CBEAM	3255	3255	3080	3087	0.	1.	0.	+3255
+3255	46							
CBEAM	3257	3255	3085	3090	0.	1.	0.	+3257
+3257	246							
CBEAM	3391	3391	29	3196	0.	0.	1.	+3391
+3391	456							
CBEAM	3392	3391	3196	182	0.	0.	1.	+3392
+3392	456							
CBEAM	3393	3391	182	3197	0.	0.	1.	+3393
+3393	456							
CBEAM	3394	3391	3197	38	0.	0.	1.	+3394
+3394	456							
CBEAM	3395	3391	44	3198	0.	0.	1.	+3395
+3395	456							
CBEAM	3396	3391	3198	183	0.	0.	1.	+3396



+3396		456							
CBEAM	3397	3391	183	3199	0.	0.	1.		
+3397	456								
CBEAM	3398	3391	3199	46	0.	0.	1.		
+3398	456								
CBEAM	3399	3391	3198	3200	0.	0.	1.		
CBEAM	3400	3391	3200	3196	0.	0.	1.		
CBEAM	3401	3391	3199	3202	0.	0.	1.		
CBEAM	3402	3391	3202	3197	0.	0.	1.		
CBEAM	3403	3391	3200	3201	0.	0.	1.		
+3403	5								
CBEAM	3404	3391	3201	3202	0.	0.	1.		
+3404	5								
CBEAM	3405	3405	3203	3204	0.	0.	1.		
CBEAM	3406	3405	3204	3205	0.	0.	1.		
CBEAM	3407	3407	3204	3206	0.	1.	0.		
+3407	6								
CBEAM	3408	3407	3206	3207	0.	1.	0.		
CBEAM	3409	3409	3207	3208	0.	0.	1.		
CBEAM	3410	3409	3209	3212	0.	1.	0.		
CBEAM	3411	3405	3210	3211	0.	0.	1.		
CBEAM	3412	3409	3211	3212	0.	0.	1.		
CBEAM	3413	3405	3212	3213	0.	0.	1.		
CBEAM	4148	4148	3086	3087	0.	0.	1.		
CBEAM	4149	4148	3087	3088	0.	0.	1.		
CBEAM	4150	4148	3088	3090	0.	0.	1.		
CBEAM	4151	4151	3086	3087	0.	0.	1.		
CBEAM	4152	4151	3087	3088	0.	0.	1.		
CBEAM	4153	4151	3088	3089	0.	0.	1.		
CBEAM	4154	4151	3089	3090	0.	0.	1.		
CBEAM	5002	5002	153	267	1.	0.	0.		
CBEAM	5051	5051	156	458	1.	0.	0.		
CBEAM	5052	5052	458	459	1.	0.	0.		
CBEAM	5053	5053	459	268	1.	0.	0.		
CELAS2	61	36.686	34	5	35	5			
CELAS2	62	71.086	40	5	41	5			
CELAS2	63	94.186	48	5	49	5			
CELAS2	64	132.486	57	5	58	5			
CELAS2	65	110.086	69	5	70	5			
CELAS2	66	51.786	82	5	83	5			
CELAS2	67	5.086	115	5	116	5			
CELAS2	191	11.256	277	5	276	5			
CELAS2	192	22.086	291	5	290	5			
CELAS2	193	9.686	294	5	293	5			
CELAS2	194	156610.	298	3	195	3			
CELAS2	195	67829.	284	3	196	3			
CELAS2	1172	5650000.17	4	30	4				
CELAS2	1173	5590000.15	4	27	4				
CELAS2	1174	1600000.13	4	25	4				
CELAS2	1175	2030000.11	4	23	4				
CELAS2	1221	3307000.142	4	141	4				
CELAS2	1222	268300.141	4	140	4				
CELAS2	1223	137300.140	4	139	4				
CELAS2	1224	105200.139	4	138	4				
CELAS2	1225	85600.138	4	137	4				
CELAS2	1226	69900.137	4	136	4				
CELAS2	1227	57700.136	4	135	4				
CELAS2	1228	40000.135	4	134	4				
CELAS2	1229	6229750.142	4	119	4				
CELAS2	3161	193.86	3076	4	3083	4			
CELAS2	3414	1515.85	3204	4	3207	4			
CELAS2	3415	1724.85	3212	4	3208	4			
CELAS2	3416	580.485	3204	6	3207	6			
CELAS2	3417	2652.585	3208	6	3209	6			
CELAS2	3418	732.685	3208	5	3209	5			
CONM1	301	19	0						
+301	9.565								
CONM1	302	72	0						
+302	16.770								
CONM1	303	20	0						
+303	7.972								
CONM1	304	60	0						
+304	10.110								
CONM1	305	73	0						
+305	7.755								
CONM1	306	21	0						
+306	3.712								
CONM1	307	61	0						
+307	20.285								
CONM1	308	74	0						
+308	9.982								
CONM1	309	51	0						
+309	32.156								
CONM1	310	62	0						
+310	25.281								
CONM1	311	75	0						
+311	14.285								
CONM1	312	26	0						
+312	42.942								
CONM1	313	52	0						
+313	57.288								
CONM1	314	64	0						
+314	46.648								
CONM1	315	77	0						
+315	20.983								
CONM1	316	29	0						
+316	60.677								
CONM1	317	44	0						
+317	80.964								
CONM1	318	53	0						
+318	74.861								
CONM1	319	65	0						
+319	56.266								
CONM1	320	78	0						
+320	28.341								
CONM1	321	33	0						
+321	37.854								
CONM1	322	39	0						
+322	99.621								
CONM1	323	47	0						
+323	105.244								
CONM1	324	56	0						
+324	95.811								
CONM1	325	68	0						

+3397

+3398

+3403

+3404

+3407

+301

+302

+303

+304

+305

+306

+307

+308

+309

+310

+311

+312

+313

+314

+315

+316

+317

+318

+319

+320

+321

+322

+323

+324

+325

+325 83.620

CONM1 326 81 0

+326 33.148

CONM1 341 85 0

+341 .6

CONM1 342 86 0

+342 1.6

CONM1 343 87 0

+343 1.8

CONM1 344 88 0

+344 1.

CONM1 345 6 0

+345 12.03

CONM1 346 17 0

+346 57.78

CONM1 347 5 0

+347 10.08

CONM1 348 15 0

+348 42.72

CONM1 349 4 0

+349 6.92

CONM1 350 13 0

+350 27.67

CONM1 351 3 0

+351 5.17

CONM1 352 11 0

+352 27.65

CONM1 353 2 0

+353 4.08

CONM1 354 9 0

+354 3.71

CONM1 355 95 0

+355 9.133

CONM1 356 107 0

+356 6.765

CONM1 357 113 0

+357 .022

CONM1 358 93 0

+358 10.32

CONM1 359 106 0

+359 10.12

CONM1 360 112 0

+360 .149

CONM1 361 124 0

+361 5.816

CONM1 362 130 0

+362 7.986

CONM1 363 133 0

+363 .998

CONM1 364 92 0

+364 4.56

CONM1 365 105 0

+365 6.797

CONM1 366 111 0

+366 .952

CONM1 367 123 0

+367 3.296

CONM1 368 129 0

+368 4.727

CONM1 369 132 0

+369 .647

CONM1 370 91 0

+370 2.069

CONM1 371 104 0

+371 3.014

CONM1 372 110 0

+372 .477

CONM1 373 122 0

+373 1.784

CONM1 374 128 0

+374 2.632

CONM1 375 131 0

+375 .435

CONM1 376 90 0

+376 1.644

CONM1 377 103 0

+377 2.354

CONM1 378 109 0

+378 .272

CONM1 379 89 0

+379 .651

CONM1 380 102 0

+380 1.075

CONM1 381 108 0

+381 .284

CONM1 391 163 0

+391 314.21

CONM1 392 153 0

+392 463.77

CONM1 393 154 0

+393 870.68

CONM1 394 155 0

+394 1299.38

CONM1 395 156 0







QQUAD4	663	663	1107	1113	1112	1106
QQUAD4	664	664	1141	1100	1127	1140
QQUAD4	665	665	1100	1106	1130	1127
QQUAD4	666	666	1106	1112	1133	1130
QQUAD4	667	667	1140	1127	1099	1139
QQUAD4	668	668	1127	1130	1105	1099
QQUAD4	669	669	1130	1133	1111	1105
QQUAD4	670	670	1139	1099	1126	1138
QQUAD4	671	671	1099	1105	1129	1126
QQUAD4	672	672	1105	1111	1132	1129
QQUAD4	673	673	1138	1126	1098	1137
QQUAD4	674	674	1126	1129	1104	1098
QQUAD4	675	675	1129	1132	1110	1104
QQUAD4	676	676	1137	1098	1125	1136
QQUAD4	677	677	1098	1104	1128	1125
QQUAD4	678	678	1104	1110	1131	1128
QQUAD4	679	679	1136	1125	1097	1135
QQUAD4	680	680	1125	1128	1103	1097
QQUAD4	681	681	1128	1131	1109	1103
QQUAD4	682	682	1135	1097	1096	1134
QQUAD4	683	683	1097	1103	1102	1096
QQUAD4	684	684	1103	1109	1108	1102
QQUAD4	1601	601	2033	2039	2038	2032
QQUAD4	1602	602	2039	2047	2046	2038
QQUAD4	1603	603	2047	2056	2055	2046
QQUAD4	1604	604	2056	2068	2067	2055
QQUAD4	1605	605	2068	2081	2080	2067
QQUAD4	1607	607	2038	2182	2181	2030
QQUAD4	1608	608	2038	2046	2183	2182
QQUAD4	1609	609	2046	2055	2184	2183
QQUAD4	1610	610	2055	2067	2185	2184
QQUAD4	1611	611	2067	2080	2186	2185
QQUAD4	1613	613	2182	2183	2044	2029
QQUAD4	1614	614	2183	2184	2053	2044
QQUAD4	1615	615	2184	2185	2065	2053
QQUAD4	1616	616	2185	2186	2078	2065
QQUAD4	1618	618	2027	2044	2188	2187
QQUAD4	1619	619	2044	2053	2189	2188
QQUAD4	1620	620	2053	2065	2190	2189
QQUAD4	1621	621	2065	2078	2191	2190
QQUAD4	1623	623	2188	2189	2052	2026
QQUAD4	1624	624	2189	2190	2064	2052
QQUAD4	1625	625	2190	2191	2077	2064
QQUAD4	1627	627	2025	2052	2193	2192
QQUAD4	1628	628	2052	2064	2063	2193
QQUAD4	1632	632	2192	2193	2051	2024
QQUAD4	1633	633	2193	2063	2062	2051
QQUAD4	1634	634	2063	2245	2244	2062
QQUAD4	1635	635	2245	2076	2075	2244
QQUAD4	1639	639	2062	2061	2021	2022
QQUAD4	1640	640	2062	2244	2243	2061
QQUAD4	1641	641	2244	2075	2074	2243
QQUAD4	1643	643	2021	2061	2060	2020
QQUAD4	1644	644	2061	2243	2242	2060
QQUAD4	1645	645	2243	2074	2073	2242
QQUAD4	1648	648	2060	2242	2143	2019
QQUAD4	1649	649	2242	2073	2072	2143
QQUAD4	1661	661	2142	2101	2100	2141
QQUAD4	1662	662	2101	2107	2106	2100
QQUAD4	1663	663	2107	2113	2112	2106
QQUAD4	1664	664	2141	2100	2127	2140
QQUAD4	1665	665	2100	2106	2130	2127
QQUAD4	1666	666	2106	2112	2133	2130
QQUAD4	1667	667	2140	2127	2099	2139
QQUAD4	1668	668	2127	2130	2105	2099
QQUAD4	1669	669	2130	2133	2111	2105
QQUAD4	1670	670	2139	2099	2126	2138
QQUAD4	1671	671	2099	2105	2129	2126
QQUAD4	1672	672	2105	2111	2132	2129
QQUAD4	1673	673	2138	2126	2098	2137
QQUAD4	1674	674	2126	2129	2104	2098
QQUAD4	1675	675	2129	2132	2110	2104
QQUAD4	1676	676	2137	2098	2125	2136
QQUAD4	1677	677	2098	2104	2128	2125
QQUAD4	1678	678	2104	2110	2131	2128
QQUAD4	1679	679	2136	2125	2097	2135
QQUAD4	1680	680	2125	2128	2103	2097
QQUAD4	1681	681	2128	2131	2109	2103
QQUAD4	1682	682	2135	2097	2096	2134
QQUAD4	1683	683	2097	2103	2102	2096
QQUAD4	1684	684	2103	2109	2108	2102
QQUAD8	701	701	1257	1252	1251	1233
+701	1506	1512				1507
QQUAD8	702	702	1252	1257	1258	1253
+702	1508	1502				1507
QQUAD8	703	703	1253	1258	1259	1254
+703	1509	1503				1508
QQUAD8	704	704	1254	1259	1260	1255
+704	1510	1504				1509
QQUAD8	705	705	1255	1260	1261	1256
+705	1511	1505				1510
QQUAD8	707	707	1257	1262	1263	1258
+707	1519	1513				1518
QQUAD8	708	708	1258	1263	1264	1259
+708	1520	1514				1519
QQUAD8	709	709	1259	1264	1265	1260
+709	1521	1515				1520
QQUAD8	710	710	1260	1265	1266	1261
+710	1522	1516				1521
QQUAD8	1701	701	2257	2252	2251	2233
+1701	2506	2512				2507
QQUAD8	1702	702	2252	2257	2258	2253
+1702	2508	2502				2509
QQUAD8	1703	703	2253	2258	2259	2254
+1703	2509	2503				2510
QQUAD8	1704	704	2254	2259	2260	2255
+1704	2510	2504				2511
QQUAD8	1705	705	2255	2260	2261	2256
+1705	2511	2505				2512
QQUAD8	1707	707	2257	2262	2263	2258
+1707	2519	2513				2520
QQUAD8	1708	708	2258	2263	2264	2259
+1708	2520	2514				2521
QQUAD8	1709	709	2259	2264	2265	2260

+1709	2521	2515				99.5
QQUAD8	1710	710	2260	2265	2266	2261
+1710	2522	2516				2521
CSHEAR	71	71	1034	1040	1037	1031
CSHEAR	72	72	1040	1048	1045	1037
CSHEAR	73	73	1048	1057	1054	1045
CSHEAR	74	74	1057	1069	1066	1054
CSHEAR	75	75	1069	1082	1121	1066
CSHEAR	76	76	1094	1079	1114	1121
CSHEAR	77	71	2034	2040	2037	2031
CSHEAR	78	72	2040	2048	2045	2037
CSHEAR	79	73	2048	2057	2054	2045
CSHEAR	80	74	2057	2069	2066	2054
CSHEAR	81	75	2069	2082	2121	2066
CSHEAR	82	76	2094	2079	2114	2121
CSHEAR	201	201	1465	1464	1466	1467
CSHEAR	202	202	1275	1276	1464	1465
CSHEAR	203	203	1280	1290	1276	1275
CSHEAR	204	204	1114	1079	1293	1292
CSHEAR	205	201	2465	2464	2466	2465
CSHEAR	206	202	2275	2276	2464	2467
CSHEAR	207	203	2280	2290	2276	2275
CSHEAR	208	204	2114	2079	2293	2292
CSHEAR	642	642	1075	1088	1087	1074
CSHEAR	646	646	1074	1087	1086	1073
CSHEAR	650	650	1073	1086	1085	1072
CSHEAR	651	651	1007	1018	1016	1006
CSHEAR	652	652	1006	1016	1180	1176
CSHEAR	653	653	1176	1180	1014	1005
CSHEAR	654	654	1005	1014	1179	1175
CSHEAR	655	655	1175	1179	1012	1004
CSHEAR	656	656	1004	1012	1178	1174
CSHEAR	657	657	1174	1178	1010	1003
CSHEAR	658	658	1003	1010	1177	1173
CSHEAR	659	659	1173	1177	1194	1190
CSHEAR	660	660	1002	1194	1008	1001
CSHEAR	1642	642	2075	2088	2087	2074
CSHEAR	1646	646	2074	2087	2086	2073
CSHEAR	1650	650	2073	2086	2085	2072
CSHEAR	1651	651	2007	2018	2016	2006
CSHEAR	1652	652	2006	2016	2180	2176
CSHEAR	1653	653	2176	2180	2014	2005
CSHEAR	1654	654	2005	2014	2179	2175
CSHEAR	1655	655	2175	2179	2012	2004
CSHEAR	1656	656	2004	2012	2178	2174
CSHEAR	1657	657	2174	2178	2010	2003
CSHEAR	1658	658	2003	2010	2177	2173
CSHEAR	1659	659	2173	2177	2194	2002
CSHEAR	1660	660	2002	2194	2008	2001
CSHEAR	3150	3158	3091	3092	3094	3093
CSHEAR	3159	3158	3095	3096	3098	3097
CTRIA3	606	606	1032	1038	1030	
CTRIA3	612	612	1181	1182	1029	
CTRIA3	617	617	1029	1044	1027	
CTRIA3	622	622	1187	1188	1026	
CTRIA3	626	626	1026	1052	1025	
CTRIA3	629	629	1064	1245	1063	
CTRIA3	630	630	1064	1077	1245	
CTRIA3	631	631	1077	1076	1245	
CTRIA3	636	636	1051	1023	1024	
CTRIA3	637	637	1051	1022	1023	
CTRIA3	638	638	1062	1022	1051	
CTRIA3	647	647	1019	1020	1060	
CTRIA3	1606	606	2032	2038	2030	
CTRIA3	1612	612	2181	2182	2029	
CTRIA3	1617	617	2029	2044	2027	
CTRIA3	1622	622	2187	2188	2026	
CTRIA3	1626	626	2026	2052	2025	
CTRIA3	1629	629	2064	2245	2063	
CTRIA3	1630	630	2064	2077	2245	
CTRIA3	1631	631	2077	2076	2245	
CTRIA3	1636	636	2051	2023	2024	
CTRIA3	1637	637	2051	2022	2023	
CTRIA3	1638	638	2062	2022	2051	
CTRIA3	1647	647	2019	2020	2060	
CTRIA6	706	706	1262	1257	1233	1518
+706	99.5					1512
CTRIA6	1706	706	2262	2257	2233	2518
+1706	99.5					



*9028	363	1	0.334950E+05
DMIG	*VTAIL	364	1
*9029	357	1	-.178665E+00
*9030	358	1	0.286879E+01
*9031	359	1	-.179730E+02
*9032	360	1	0.822153E+02
*9033	361	1	-.308830E+03
*9034	362	1	0.163581E+04
*9035	363	1	-.934300E+04
*9036	364	1	0.133364E+05
DMIG	*VTAIL	367	1
*9037	357	1	0.156429E+04
*9038	358	1	-.126722E+05
*9039	359	1	-.249630E+02
*9040	360	1	0.252357E+03
*9041	361	1	0.220342E+02
*9042	362	1	-.348368E+01
*9043	363	1	0.213553E-02
*9044	364	1	0.287588E+00
*9045	367	1	0.573159E+05
DMIG	*VTAIL	368	1
*9046	357	1	0.150006E+03
*9047	358	1	-.349447E+04
*9048	359	1	-.184666E+05
*9049	360	1	-.597411E+03
*9050	361	1	0.413201E+03
*9051	362	1	-.489800E+02
*9052	363	1	-.271009E+00
*9053	364	1	-.202789E+01
*9054	367	1	-.502776E+04
*9055	368	1	0.246725E+05
DMIG	*VTAIL	369	1
*9056	357	1	0.292477E+03
*9057	358	1	0.106678E+04
*9058	359	1	-.372974E+04
*9059	360	1	-.163066E+05
*9060	361	1	-.720338E+03
*9061	362	1	0.400484E+03
*9062	363	1	0.516836E+00
*9063	364	1	-.141972E+02
*9064	367	1	0.245134E+03
*9065	368	1	-.625047E+04
*9066	369	1	0.208907E+05
DMIG	*VTAIL	370	1
*9067	357	1	0.109520E+02
*9068	358	1	-.429165E+02
*9069	359	1	0.371999E+03
*9070	360	1	-.238343E+04
*9071	361	1	-.147446E+05
*9072	362	1	0.690143E+03
*9073	363	1	0.723676E+03
*9074	364	1	0.244021E+02
*9075	367	1	-.574195E+02
*9076	368	1	0.416297E+03
*9077	369	1	-.416404E+04
*9078	370	1	0.182966E+05
DMIG	*VTAIL	371	1
*9079	357	1	-.319898E+00
*9080	358	1	-.105520E+02
*9081	359	1	0.537074E+02
*9082	360	1	0.115046E+03
*9083	361	1	-.455381E+03
*9084	362	1	-.131301E+05
*9085	363	1	0.208463E+04
*9086	364	1	-.271085E+03
*9087	367	1	0.123231E+02
*9088	368	1	-.234544E+03
*9089	369	1	0.874696E+03
*9090	370	1	-.744486E+04
*9091	371	1	0.300624E+05
DMIG	*VTAIL	372	1
*9092	357	1	0.463602E+00
*9093	358	1	-.677371E+01
*9094	359	1	-.134083E+02
*9095	360	1	0.577641E+02
*9096	361	1	0.669330E+02
*9097	362	1	-.915742E+03
*9098	363	1	-.544593E+04
*9099	364	1	0.116824E+04
*9100	367	1	-.794538E+01
*9101	368	1	0.789193E+02
*9102	369	1	-.316023E+03
*9103	370	1	0.187626E+04
*9104	371	1	-.192798E+05
*9105	372	1	0.276338E+05
DMIG	*VTAIL	373	1
*9106	357	1	0.484957E-02
*9107	358	1	0.440965E+00
*9108	359	1	-.691597E+00
*9109	360	1	-.875753E+00
*9110	361	1	0.363362E+02
*9111	362	1	0.411035E+01
*9112	363	1	-.163347E+04
*9113	364	1	-.258823E+04
*9114	367	1	0.345739E+00
*9115	368	1	-.422117E+01
*9116	369	1	0.101714E+02
*9117	370	1	-.633944E+02
*9118	371	1	0.270474E+04
*9119	372	1	-.730833E+04
*9120	373	1	0.703131E+04
DMIG	*VTAIL	375	1
*9121	357	1	-.230046E+04
*9122	358	1	-.497159E+05
*9123	359	1	0.157355E+04
*9124	360	1	0.126726E+04
*9125	361	1	0.195618E+03
*9126	362	1	-.247898E+02
*9127	363	1	0.635440E+01
*9128	364	1	-.784751E+00
*9129	367	1	0.378804E+03
*9130	368	1	-.142639E+04
*9131	369	1	0.123205E+04
*9132	370	1	0.216183E+03

*9029	371	1	
*9030	372	1	
*9031	373	1	
*9032	375	1	
DMIG	*VTAIL	376	1
*9033	357	1	0.922286E+03
*9034	358	1	0.349061E+04
*9035	359	1	-.272521E+05
*9036	360	1	0.153243E+04
*9037	361	1	0.667605E+03
*9038	362	1	-.740884E+01
*9039	363	1	-.243058E+02
*9040	364	1	0.583973E+00
*9041	367	1	0.194037E+04
*9042	368	1	0.129929E+04
*9043	369	1	0.235053E+04
*9044	370	1	0.756407E+03
*9045	371	1	0.771059E+02
*9046	372	1	-.600606E+00
*9047	373	1	0.197780E+01
*9048	375	1	-.311505E+05
*9049	376	1	0.109246E+06
DMIG	*VTAIL	377	1
*9050	357	1	0.317443E+03
*9051	358	1	0.219380E+04
*9052	359	1	0.208271E+04
*9053	360	1	-.279276E+05
*9054	361	1	0.110103E+04
*9055	362	1	0.550257E+03
*9056	363	1	0.811533E+02
*9057	364	1	-.211053E+00
*9058	367	1	0.716540E+03
*9059	368	1	0.171546E+04
*9060	369	1	0.884905E+03
*9061	370	1	0.158823E+04
*9062	371	1	0.561757E+03
*9063	372	1	0.690199E+02
*9064	373	1	0.714289E+01
*9065	375	1	0.363833E+04
*9066	376	1	-.187741E+05
*9067	377	1	0.775901E+05
DMIG	*VTAIL	378	1
*9068	357	1	-.110646E+02
*9069	358	1	0.133390E+03
*9070	359	1	0.711357E+03
*9071	360	1	0.202839E+04
*9072	361	1	-.261682E+05
*9073	362	1	0.139574E+04
*9074	363	1	0.872899E+03
*9075	364	1	0.177372E+03
*9076	367	1	0.741269E+02
*9077	368	1	0.487425E+03
*9078	369	1	0.121023E+04
*9079	370	1	0.188910E+04
*9080	371	1	0.140030E+04
*9081	372	1	0.265625E+03
*9082	373	1	0.127903E+03
*9083	375	1	-.234087E+03
*9084	376	1	0.178520E+04
*9085	377	1	-.113866E+05
*9086	378	1	0.701957E+05
DMIG	*VTAIL	379	1
*9087	357	1	0.555097E+00
*9088	358	1	-.383492E+02
*9089	359	1	0.749947E+02
*9090	360	1	0.542347E+03
*9091	361	1	0.295398E+04
*9092	362	1	-.156110E+05
*9093	363	1	0.237945E+03
*9094	364	1	0.100000E+04
*9095	367	1	-.853152E+01
*9096	368	1	0.224612E+02
*9097	369	1	0.450535E+03
*9098	370	1	0.123586E+04
*9099	371	1	0.192022E+04
*9100	372	1	0.747017E+03
*9101	373	1	0.679657E+03
*9102	375	1	0.693183E+02
*9103	376	1	-.525747E+03
*9104	377	1	0.193872E+04
*9105	378	1	-.143803E+05
*9106	379	1	0.259716E+05
DMIG	*VTAIL	380	1
*9107	357	1	-.681648E-01
*9108	358	1	0.121017E+01
*9109	359	1	-.388187E+01
*9110	360	1	0.424170E+02
*9111	361	1	0.491571E+03
*9112	362	1	0.156462E+04
*9113	363	1	-.188062E+05
*9114	364	1	-.222663E+04
*9115	367	1	0.511802E+00
*9116	368	1	-.337087E+01
*9117	369	1	0.222733E+02
*9118	370	1	0.254233E+03
*9119	371	1	0.570111E+03
*9120	372	1	0.211878E+04
*9121	373	1	0.303574E+03
*9122	375	1	-.236553E+02
*9123	376	1	0.872011E+02
*9124	377	1	-.226099E+03
*9125	378	1	0.236420E+04
*9126	379	1	-.100636E+05
*9127	380	1	0.832375E+05
DMIG	*VTAIL	381	1
*9128	357	1	-.215496E-02
*9129	358	1	-.127980E+00
*9130	359	1	-.670087E+00
*9131	360	1	-.448327E+01
*9132	361	1	-.502647E+02
*9133	362	1	0.467089E+02
*9134	363	1	0.163977E+04
*9135	364	1	-.479445E+04
*9136	367	1	-.110671E+00

-.467290E+02	*9134
0.428324E+01	*9135
-.914807E+00	*9136
0.925573E+06	
1	*9137
0.922286E+03	*9138
0.349061E+04	*9139
-.272521E+05	*9140
0.153243E+04	*9141
0.667605E+03	*9142
-.740884E+01	*9143
-.243058E+02	*9144
0.583973E+00	*9145
0.194037E+04	*9146
0.129929E+04	*9147
0.235053E+04	*9148
0.756407E+03	*9149
0.771059E+02	*9150
-.600606E+00	*9151
0.197780E+01	*9152
-.311505E+05	*9153
0.109246E+06	
1	*9154
0.317443E+03	*9155
0.219380E+04	*9156
0.208271E+04	*9157
-.279276E+05	*9158
0.110103E+04	*9159
0.550257E+03	*9160
0.811533E+02	*9161
-.211053E+00	*9162
0.716540E+03	*9163
0.171546E+04	*9164
0.884905E+03	*9165
0.158823E+04	*9166
0.561757E+03	*9167
0.690199E+02	*9168
0.714289E+01	*9169
0.363833E+04	*9170
-.187741E+05	*9171
0.775901E+05	
1	*9172
-.110646E+02	*9173
0.133390E+03	*9174
0.711357E+03	*9175
0.202839E+04	*9176
-.261682E+05	*9177
0.139574E+04	*9178
0.872899E+03	*9179
0.177372E+03	*9180
0.741269E+02	*9181
0.487425E+03	*9182
0.121023E+04	*9183
0.188910E+04	*9184
0.140030E+04	*9185
0.265625E+03	*9186
0.127903E+03	*9187
-.234087E+03	*9188
0.178520E+04	*9189
-.113866E+05	*9190
0.701957E+05	
1	*9191
0.555097E+00	*9192
-.383492E+02	*9193
0.749947E+02	*9194
0.542347E+03	*9195
0.295398E+04	*9196
-.156110E+05	*9197
0.237945E+03	*9198
0.100000E+04	*9199
-.853152E+01	*9200
0.224612E+02	*9201
0.450535E+03	*9202
0.123586E+04	*9203
0.192022E+04	*9204
0.747017E+03	*9205
0.679657E+03	*9206
0.693183E+02	*



*9241	368	1	0.669332E+00	*9242
*9242	369	1	-.571058E+01	*9243
*9243	370	1	-.182164E+02	*9244
*9244	371	1	-.460481E+02	*9245
*9245	372	1	0.878765E+02	*9246
*9246	373	1	0.449404E+03	*9247
*9247	375	1	0.842499E+01	*9248
*9248	376	1	-.320128E+02	*9249
*9249	377	1	0.773381E+02	*9250
*9250	378	1	-.617478E+03	*9251
*9251	379	1	0.379035E+04	*9252
*9252	380	1	-.113558E+05	*9253
*9253	381	1	0.131793E+05	
DMIG	*VTAIL	382	1	
*9254	357	1	-.211797E-02	*9254
*9255	358	1	0.196775E-01	*9255
*9256	359	1	-.154809E+00	*9256
*9257	360	1	0.835219E+00	*9257
*9258	361	1	0.461861E+01	*9258
*9259	362	1	0.180099E+02	*9259
*9260	363	1	0.393001E+02	*9260
*9261	364	1	0.813303E+03	*9261
*9262	367	1	0.352611E-02	*9262
*9263	368	1	-.218807E-01	*9263
*9264	369	1	0.135616E+00	*9264
*9265	370	1	0.447717E+01	*9265
*9266	371	1	0.122064E+02	*9266
*9267	372	1	0.882424E+01	*9267
*9268	373	1	-.479232E+02	*9268
*9269	375	1	0.117696E+00	*9269
*9270	376	1	-.551862E+00	*9270
*9271	377	1	0.991771E+00	*9271
*9272	378	1	-.439420E+01	*9272
*9273	379	1	-.139387E+03	*9273
*9274	380	1	0.164894E+04	*9274
*9275	381	1	-.475810E+03	*9275
*9276	382	1	0.179643E+04	*9276
DMIG	*VTAIL	383	1	
*9277	357	1	0.311274E-03	*9277
*9278	358	1	-.479934E-02	*9278
*9279	359	1	0.182106E-01	*9279
*9280	360	1	-.183852E+00	*9280
*9281	361	1	-.116182E+01	*9281
*9282	362	1	-.255904E+01	*9282
*9283	363	1	0.112750E+01	*9283
*9284	364	1	-.358622E+02	*9284
*9285	367	1	-.179107E-02	*9285
*9286	368	1	0.109064E-01	*9286
*9287	369	1	-.797350E-01	*9287
*9288	370	1	-.865236E+00	*9288
*9289	371	1	-.258086E+01	*9289
*9290	372	1	-.318473E+01	*9290
*9291	373	1	-.249386E+01	*9291
*9292	375	1	0.754849E-01	*9292
*9293	376	1	-.271080E+00	*9293
*9294	377	1	0.703442E+00	*9294
*9295	378	1	-.611849E+01	*9295
*9296	379	1	0.611220E+02	*9296
*9297	380	1	0.131850E+04	*9297
*9298	381	1	-.653645E+03	*9298
*9299	382	1	-.643881E+03	*9299
*9300	383	1	0.830302E+03	*9300
DMIG	*VTAIL	384	1	
*9301	357	1	0.265363E+05	*9301
*9302	358	1	0.282354E+05	*9302
*9303	359	1	-.948610E+04	*9303
*9304	360	1	-.219314E+04	*9304
*9305	361	1	-.475010E+03	*9305
*9306	362	1	0.553337E+02	*9306
*9307	363	1	0.194540E+01	*9307
*9308	364	1	-.384202E+01	*9308
*9309	367	1	0.284832E+04	*9309
*9310	368	1	-.116448E+04	*9310
*9311	369	1	-.338989E+04	*9311
*9312	370	1	-.157428E+03	*9312
*9313	371	1	0.485381E+02	*9313
*9314	372	1	-.926415E+01	*9314
*9315	373	1	-.122039E+01	*9315
*9316	375	1	-.569831E+06	*9316
*9317	376	1	-.948471E+05	*9317
*9318	377	1	-.370924E+04	*9318
*9319	378	1	-.157310E+03	*9319
*9320	379	1	0.111069E+03	*9320
*9321	380	1	-.182484E+02	*9321
*9322	381	1	0.664130E+01	*9322
*9323	382	1	0.991842E-01	*9323
*9324	383	1	0.593778E-01	*9324
*9325	384	1	0.149748E+07	*9325
DMIG	*VTAIL	385	1	
*9326	357	1	0.710800E+01	*9326
*9327	358	1	0.285959E+03	*9327
*9328	359	1	-.443238E+03	*9328
*9329	360	1	0.490161E+04	*9329
*9330	361	1	-.323369E+03	*9330
*9331	362	1	0.898562E+02	*9331
*9332	363	1	-.795076E+01	*9332
*9333	364	1	-.406666E+01	*9333
*9334	367	1	0.952442E+02	*9334
*9335	368	1	0.256148E+03	*9335
*9336	369	1	0.903557E+03	*9336
*9337	370	1	0.597779E+03	*9337
*9338	371	1	0.124134E+03	*9338
*9339	372	1	-.470681E+01	*9339
*9340	373	1	-.373270E+00	*9340
*9341	375	1	-.139221E+04	*9341
*9342	376	1	-.419824E+03	*9342
*9343	377	1	-.351213E+05	*9343
*9344	378	1	-.580778E+03	*9344
*9345	379	1	0.515640E+02	*9345
*9346	380	1	0.268160E+01	*9346
*9347	381	1	-.203257E+01	*9347
*9348	382	1	-.981071E-01	*9348
*9349	383	1	-.714582E-02	*9349
*9350	384	1	-.269212E+04	*9350

*9351	385	1	0.349451E+05	*9351
DMIG	*VTAIL	386	1	
*9352	357	1	0.106815E+00	*9352
*9353	358	1	-.224760E+02	*9353
*9354	359	1	0.196095E+03	*9354
*9355	360	1	-.359483E+03	*9355
*9356	361	1	0.606719E+04	*9356
*9357	362	1	0.281741E+03	*9357
*9358	363	1	0.117268E+03	*9358
*9359	364	1	0.195964E+02	*9359
*9360	367	1	-.452626E+00	*9360
*9361	368	1	0.496996E+02	*9361
*9362	369	1	0.352965E+03	*9362
*9363	370	1	-.142282E+03	*9363
*9364	371	1	0.322191E+03	*9364
*9365	372	1	0.854219E+02	*9365
*9366	373	1	0.160192E+02	*9366
*9367	375	1	0.323717E+03	*9367
*9368	376	1	-.318383E+02	*9368
*9369	377	1	-.420586E+03	*9369
*9370	378	1	-.314870E+05	*9370
*9371	379	1	-.689858E+03	*9371
*9372	380	1	0.423422E+01	*9372
*9373	381	1	0.102897E+02	*9373
*9374	382	1	0.527408E+00	*9374
*9375	383	1	0.337155E-01	*9375
*9376	384	1	0.643374E+03	*9376
*9377	385	1	-.357044E+04	*9377
*9378	386	1	0.322247E+05	*9378
DMIG	*VTAIL	387	1	
*9379	357	1	-.338835E+00	*9379
*9380	358	1	-.546516E-01	*9380
*9381	359	1	0.188194E+00	*9381
*9382	360	1	0.399533E-01	*9382
*9383	361	1	0.777587E-02	*9383
*9384	362	1	-.905881E-03	*9384
*9385	363	1	0.475235E-04	*9385
*9386	364	1	0.368288E-04	*9386
*9387	367	1	-.149039E-01	*9387
*9388	368	1	0.885053E-01	*9388
*9389	369	1	0.672132E-01	*9389
*9390	370	1	0.462911E-02	*9390
*9391	371	1	-.849053E-03	*9391
*9392	372	1	0.795566E-04	*9392
*9393	373	1	0.977434E-05	*9393
*9394	375	1	-.960622E+02	*9394
*9395	376	1	0.984160E+00	*9395
*9396	377	1	0.481161E-01	*9396
*9397	378	1	-.891686E-03	*9397
*9398	379	1	-.753510E-03	*9398
*9399	380	1	-.204675E-04	*9399
*9400	381	1	0.508574E-05	*9400
*9401	382	1	-.608804E-07	*9401
*9402	383	1	0.551832E-07	*9402
*9403	384	1	-.178513E+03	*9403
*9404	385	1	0.105938E+04	*9404
*9405	386	1	-.419783E+04	*9405
*9406	387	1	0.497765E+04	*9406
DMIG	*VTAIL	388	1	
*9407	357	1	0.396140E-01	*9407
*9408	358	1	-.893404E-01	*9408
*9409	359	1	0.845446E+00	*9409
*9410	360	1	-.468879E+01	*9410
*9411	361	1	0.502871E+02	*9411
*9412	362	1	0.250159E+03	*9412
*9413	363	1	0.874634E+04	*9413
*9414	364	1	0.134833E+04	*9414
*9415	367	1	0.310222E-01	*9415
*9416	368	1	-.236734E+00	*9416
*9417	369	1	0.235626E+01	*9417
*9418	370	1	0.161871E+02	*9418
*9419	371	1	0.211136E+02	*9419
*9420	372	1	-.961292E+03	*9420
*9421	373	1	0.278446E+03	*9421
*9422	375	1	0.102905E+02	*9422
*9423	376	1	-.286084E+01	*9423
*9424	377	1	0.459790E+01	*9424
*9425	378	1	-.225652E+02	*9425
*9426	379	1	0.362756E+03	*9426
*9427	380	1	-.513037E+05	*9427
*9428	381	1	-.124016E+04	*9428
*9429	382	1	-.303660E+04	*9429
*9430	383	1	-.859051E+03	*9430
*9431	384	1	0.185899E+02	*9431
*9432	385	1	-.106061E+03	*9432
*9433	386	1	0.590076E+03	*9433
*9434	387	1	-.160275E+04	*9434
*9435	388	1	0.483130E+05	*9435
DMIG	*VTAIL	389	1	
*9436	357	1	0.103213E+02	*9436
*9437	358	1	0.166475E+01	*9437
*9438	359	1	-.573260E+01	*9438
*9439	360	1	-.121702E+01	*9439
*9440	361	1	-.236061E+00	*9440
*9441	362	1	0.275941E-01	*9441
*9442	363	1	-.144762E-02	*9442
*9443	364	1	-.112184E-02	*9443
*9444	367	1	0.453988E+00	*9444
*9445	368	1	-.269597E+01	*9445
*9446	369	1	-.204739E+01	*9446
*9447	370	1	-.141008E+00	*9447
*9448	371	1	0.258631E-01	*9448
*9449	372	1	-.242338E-02	*9449
*9450	373	1	-.297737E-03	*9450
*9451	375	1	0.292616E+04	*9451
*9452	376	1	-.299786E+02	*9452
*9453	377	1	-.146567E+01	*9453
*9454	378	1	0.271617E-01	*9454
*9455	379	1	0.229527E-01	*9455
*9456	380	1	0.623463E-03	*9456
*9457	381	1	-.154917E-03	*9457
*9458	382	1	0.185448E-05	*9458
*9459	383	1	-.168094E-05	*9459
*9460	384	1	-.237751E+04	*9460



*9461	385	1	0.1872438E+04	*9462	372	1	-.111039E+03	*9536
*9462	386	1	0.147890E+03	*9463	373	1	0.574412E+01	*9537
*9463	387	1	-.464456E+02	*9464	375	1	-.181739E+05	*9538
*9464	388	1	0.463955E+01	*9465	376	1	0.814804E+04	*9539
*9465	389	1	0.507054E+04		377	1	0.725627E+02	*9540
DMIG	*VTAIL	390		*9466	378	1	0.203894E+03	*9541
*9466	384	1	0.243494E+04	*9467	379	1	0.126076E+02	*9542
*9467	385	1	-.408017E+04	*9468	380	1	-.261081E+01	*9543
*9468	386	1	0.137165E+04	*9469	381	1	0.555171E+00	*9544
*9469	389	1	-.414326E+04	*9470	382	1	0.415987E-02	*9545
*9470	390	1	0.591447E+04		383	1	0.517604E-02	*9546
DMIG	*VTAIL	391		*9471	384	1	0.106276E+05	*9547
*9471	385	1	0.137165E+04	*9472	385	1	-.226352E+02	*9548
*9472	386	1	-.273356E+04	*9473	386	1	0.519700E+02	*9549
*9473	387	1	0.123460E+04	*9474	387	1	0.257476E+00	*9550
*9474	389	1	0.729919E+02	*9475	388	1	0.673053E+00	*9551
*9475	390	1	-.160803E+04	*9476	389	1	-.784298E+01	*9552
*9476	391	1	0.320895E+04		406	5	0.131935E+05	*9553
DMIG	*VTAIL	392		*9477	407	1	0.195301E+08	
*9477	366	1	0.123460E+04	*9478		408		*9587
*9478	387	1	-.183606E+04	*9479			0.744264E+03	*9588
*9479	388	1	0.532735E+03	*9480			0.120044E+03	*9589
*9480	389	1	-.270690E+02	*9481			-.413376E+03	*9590
*9481	390	1	0.120338E+03	*9482			-.877589E+02	*9591
*9482	391	1	-.161773E+04	*9483			-.170800E+02	*9592
*9483	392	1	0.207529E+04				0.198980E+01	*9593
DMIG	*VTAIL	393		*9484			-.104387E+00	*9594
*9484	387	1	0.571031E+03	*9485			-.808958E-01	*9595
*9485	388	1	-.673689E+03	*9486			0.327369E+02	*9596
*9486	389	1	0.223540E+01	*9487			-.194405E+03	*9597
*9487	390	1	-.993771E+01	*9488			-.147636E+03	*9598
*9488	391	1	0.711305E+02	*9489			-.101680E+02	*9599
*9489	392	1	-.482110E+03	*9490			0.186498E+01	*9600
*9490	393	1	0.521340E+03				-.174749E+00	*9601
DMIG	*VTAIL	406		*9491			-.214697E-01	*9602
*9491	357	1	-.173625E+05	*9492			0.211004E+06	*9603
*9492	358	1	-.280045E+04	*9493			-.216175E+04	*9604
*9493	359	1	0.964342E+04	*9494			-.105689E+03	*9605
*9494	360	1	0.204728E+04	*9495			0.195862E+01	*9606
*9495	361	1	0.398450E+03	*9496			0.165511E+01	*9607
*9496	362	1	-.464190E+02	*9497			0.449577E-01	*9608
*9497	363	1	0.243519E+01	*9498			-.111710E-01	*9609
*9498	364	1	0.188718E+01	*9499			0.133726E-03	*9610
*9499	367	1	-.763702E+03	*9500			-.121212E-03	*9611
*9500	368	1	0.453518E+04	*9501			0.418267E+05	*9612
*9501	369	1	0.344413E+04	*9502			0.214221E+03	*9613
*9502	370	1	0.237204E+03	*9503			-.445492E+02	*9614
*9503	371	1	-.435070E+02	*9504			0.145153E+02	*9615
*9504	372	1	0.407663E+01	*9505			-.144600E+01	*9616
*9505	373	1	0.500855E+00	*9506			-.442150E+03	*9617
*9506	375	1	-.443406E+06	*9507			-.361694E+06	*9618
*9507	376	1	0.504302E+05	*9508			-.565555E+03	*9619
*9508	377	1	0.246556E+04	*9509			0.834648E+02	*9620
*9509	378	1	-.456917E+02	*9510			0.109547E+06	
*9510	379	1	-.386113E+02	DMIG	*VTAIL	409		
*9511	380	1	-.104880E+01	*9511			-.262206E+05	*9656
*9512	381	1	0.260603E+00	*9512			-.103588E+04	*9657
*9513	382	1	-.311963E-02	*9513			0.214164E+04	*9658
*9514	383	1	0.282769E-02	*9514			0.293531E+03	*9659
*9515	384	1	-.968350E+06	*9515			0.269486E+02	*9660
*9516	385	1	0.197004E+04	*9516			-.242846E+01	*9661
*9517	386	1	-.358031E+03	*9517			0.525678E-01	*9662
*9518	387	1	0.100278E+03	*9518			0.172745E+00	*9663
*9519	388	1	-.101088E+02	*9519			0.323348E+04	*9664
*9520	389	1	-.305457E+04	*9520			0.215706E+04	*9665
*9521	406	1	0.176490E+07	*9521			0.503979E+03	*9666
DMIG	*VTAIL	407		*9522			0.246870E+02	*9667
*9522	357	1	-.911903E+05	*9523			-.255333E+01	*9668
*9523	358	1	0.728130E+04	*9524			0.824261E+00	*9669
*9524	359	1	0.231467E+03	*9525			0.127325E-01	*9670
*9525	360	1	-.841305E-02	*9526			-.458756E+05	*9671
*9526	361	1	0.529257E+01	*9527			0.207304E+03	*9672
*9527	362	1	-.984070E+00	*9528			0.280582E+02	*9673
*9528	363	1	0.155806E+00	*9529			-.203789E+02	*9674
*9529	364	1	0.153670E-01	*9530			-.339806E+01	*9675
*9530	367	1	-.501667E+05	*9531			-.120555E+00	*9676
*9531	368	1	0.663999E+03	*9532			0.420144E-01	*9677
*9532	369	1	-.918211E+02	*9533			0.823926E-04	*9678
*9533	370	1	-.938795E+00	*9534			0.414972E-03	*9679
*9534	371	1	0.891667E+00	*9535			0.124228E+05	*9680
*9535	372	1	-.955200E+00				0.520328E+05	*9681
*9536	373	1	0.604210E-01	*9536			0.124228E+01	*9682
*9537	375	1	-.290253E+04	*9537			-.178476E+01	*9683
*9538	376	1	0.464413E+03	*9538			-.785608E+00	*9684
*9539	377	1	0.589231E+02	*9539			0.666356E-01	*9685
*9540	378	1	0.925670E+00	*9540			0.239304E+02	*9686
*9541	379	1	0.568770E+00	*9541			-.402560E+05	*9687
*9542	380	1	-.965196E-01	*9542			0.438355E+05	*9688
*9543	381	1	0.253072E-01	*9543			0.785184E+04	*9689
*9544	382	1	0.225246E-03	*9544			0.172562E+04	*9690
*9545	383	1	0.233053E-03	*9545			0.179613E+06	*9691
*9546	384	1	0.675815E+04	*9546			0.431661E+05	
*9547	385	1	-.939438E+00	*9547				*9621
*9548	386	1	0.715953E+00	*9548			-.108056E+06	*9622
*9549	387	1	-.379983E-01	*9549			-.369272E+04	*9623
*9550	388	1	0.102725E-01	*9550			-.168866E+05	*9624
*9551	389	1	0.115747E+01	*9551			-.236393E+04	*9625
*9552	406	1	-.194711E+04	*9552			-.229630E+03	*9626
*9553	407	5	0.676867E+06	*9553			0.221145E+02	*9627
*9554	407	5	0.122983E+06	*9554			-.744120E+00	*9628
DMIG	*VTAIL	407		*9555			-.145670E+01	*9629
*9555	357	1	0.191080E+06	*9556			-.615575E+04	*9630
*9556	358	1	-.356714E+05	*9557			-.153980E+05	*9631
*9557	359	1	-.280960E+05	*9558			-.392419E+04	*9632
*9558	360	1	-.160270E+04	*9559			-.182427E+03	*9633
*9559	361	1	-.918511E+02	*9560			0.179957E+02	*9634
*9560	362	1	-.156290E+02	*9561			-.376324E+01	*9635
*9561	363	1	0.105740E+02	*9562			-.241942E+00	*9636
*9562	364	1	-.110634E-01	*9563			-.145521E+06	*9637
*9563	367	1	-.804513E+06	*9564			-.194645E+04	*9638
*9564	368	1	-.532051E+05	*9565			-.813680E+03	*9639
*9565	369	1	-.187041E+04	*9566			0.145115E+03	*9640
*9566	370	1	-.364230E+03	*9567			0.267615E+02	*9641
*9567	371	1	0.204401E+03	*9568			0.128482E+01	*9642
				*9569			-.454159E+00	*9643
				*9570				
				*9571				
				*9572				
				*9573				
				*9574				
				*9575				
				*9576				
				*9577				
				*9578				
				*9579				
				*9580				
				*9581				
				*9582				
				*9583				
				*9584				
				*9585				
				*9586				
				*9587				
				*9588				
				*9589				
				*9590				
				*9591				
				*9592				
				*9593				
				*9594				
				*9595				
				*9596				
				*9597				
				*9598				
				*9599				
				*9600				
				*9601				
				*9602				
				*9603				
				*9604				
				*9605				
				*9606				
				*9607				
				*9608				
				*9609				
				*9610				
				*9611				
				*9612				
				*9613				
				*9614				
				*9615				
				*9616				
				*9617				
				*9618				
				*9619				
				*9620				
				*9621				
				*9622				



*9643	382	1				-347133E-02	
*9644	383	1				-417601E-02	
*9645	384	1				-184205E+06	
*9646	385	1				-595504E+02	
*9647	386	1				0.172236E+02	
*9648	387	1				0.503546E+01	
*9649	388	1				-432889E+00	
*9650	389	1				-153385E+03	
*9651	406	1				0.258026E+06	
*9652	407	5				0.882856E+05	
*9653	407	1				0.627816E+05	
*9654	408	1				-110606E+05	
*9655	409	5				0.437083E+07	
EIGR	1		MSIV	0.	30.		
+EIG1	MAX						
GRID	1	5				-136.6059.331	.000 0
GRID	2	5				-131.7509.602	.000 0
GRID	3	5				-100.75011.331	.000 0
GRID	4	5				-75.750 12.725	.000 0
GRID	5	5				-40.750 14.678	.000 0
GRID	6	5				0.000 17.047	.000 0
GRID	7	5				24.947 18.341	.000 0
GRID	8	5				-141.0943.076	.000 0
GRID	9	0				-170.615-371.062	.000 5
GRID	10	5				-100.7503.353	.000 0
GRID	11	0				-145.429-352.988	.000 5
GRID	12	5				-75.750 3.524	.000 0
GRID	13	0				-125.118-338.412	.000 5
GRID	14	5				-40.750 3.763	.000 0
GRID	15	0				-96.682 -318.006	.000 5
GRID	16	5				0.000 4.054	.000 0
GRID	17	0				-63.574 -294.247	.000 5
GRID	18	5				14.758 4.143	.000 0
GRID	19	0				-180.000-381.378	.000 0
GRID	20	0				-168.385-374.169	.000 1
GRID	21	0				-157.000-366.154	.000 0
GRID	22	0				-147.640-358.565	.000 0
GRID	23	0				-143.035-356.324	.000 1
GRID	24	0				-139.738-354.003	.000 0
GRID	25	0				-122.591-341.932	.000 1
GRID	26	0				-120.000-340.108	.000 0
GRID	27	0				-93.970 -321.785	.000 1
GRID	29	0				-86.000 -316.174	.000 0
GRID	30	0				-60.647 -298.327	.000 1
GRID	31	0				-41.500 -293.800	.000 0
GRID	32	0				-54.216 -293.800	.000 0
GRID	33	0				-41.500 -293.800	.000 0
GRID	34	0				-25.500 -293.800	.000 0
GRID	35	0				-25.500 -293.800	.000 0
GRID	36	0				.000 -293.80	.000 0
GRID	37	0				-41.500 -308.500	.000 0
GRID	38	0				-54.216 -310.784	.000 0
GRID	39	0				-41.500 -308.500	.000 0
GRID	40	0				-25.500 -308.500	.000 0
GRID	41	0				-25.500 -308.500	.000 0
GRID	42	0				.000 -308.50	.000 0
GRID	44	0				-86.000 -332.494	.000 0
GRID	45	0				-41.500 -324.500	.000 0
GRID	46	0				-54.216 -326.784	.000 0
GRID	47	0				-41.500 -324.500	.000 0
GRID	48	0				-25.500 -324.500	.000 0
GRID	49	0				-25.500 -324.500	.000 0
GRID	50	0				.000 -324.50	.000 0
GRID	51	0				-139.738-358.146	.000 0
GRID	52	0				-120.000-354.601	.000 0
GRID	53	0				-86.000 -348.494	.000 0
GRID	54	0				-41.500 -340.500	.000 0
GRID	55	0				-54.216 -342.784	.000 0
GRID	56	0				-41.500 -340.500	.000 0
GRID	57	0				-25.500 -340.500	.000 0
GRID	58	0				-25.500 -340.500	.000 0
GRID	59	0				.000 -340.50	.000 0
GRID	60	0				-168.385-379.292	.000 0
GRID	61	0				-157.000-377.247	.000 0
GRID	62	0				-139.738-374.146	.000 0
GRID	63	0				-131.000-372.576	.000 0
GRID	64	0				-120.000-370.601	.000 0
GRID	65	0				-86.000 -364.494	.000 0
GRID	66	0				-41.500 -356.500	.000 0
GRID	67	0				-54.216 -358.784	.000 0
GRID	68	0				-41.500 -356.500	.000 0
GRID	69	0				-25.500 -356.500	.000 0
GRID	70	0				-25.500 -356.500	.000 0
GRID	71	0				.000 -356.50	.000 0
GRID	72	0				-180.000-398.678	.000 0
GRID	73	0				-168.385-396.592	.000 0
GRID	74	0				-157.000-394.547	.000 0
GRID	75	0				-139.738-391.446	.000 0
GRID	76	0				-131.000-389.876	.000 7
GRID	77	0				-120.000-387.901	.000 0
GRID	78	0				-86.000 -381.794	.000 0
GRID	79	0				-29.250 -417.400	.000 0
GRID	80	0				-54.216 -376.084	.000 0
GRID	81	0				-41.500 -373.800	.000 7
GRID	82	0				-25.500 -373.800	.000 0
GRID	83	0				-25.500 -373.800	.000 0
GRID	84	0				.000 -373.80	.000 0
GRID	85	0				-180.000-406.675	.000 0
GRID	86	0				-168.385-406.191	.000 0
GRID	87	0				-157.000-404.717	.000 0
GRID	88	0				-139.738-404.997	.000 0
GRID	89	0				-139.738-393.695	.000 0
GRID	90	0				-130.626-392.267	.000 0
GRID	91	0				-111.224-389.227	.000 0
GRID	92	0				-85.970 -385.270	.000 0
GRID	93	0				-53.000 -380.104	.000 0
GRID	94	0				-29.250 -373.800	.000 0
GRID	95	0				-41.500 -378.302	.000 0
GRID	96	0				-139.738-397.461	.000 0
GRID	97	0				-129.992-396.307	.000 0
GRID	98	0				-110.476-393.998	.000 0
GRID	99	0				-85.073 -390.992	.000 0
GRID	100	0				-53.000 -387.196	.000 0
GRID	101	0				-41.500 -385.835	.000 0

\*9644  
\*9645  
\*9646  
\*9647  
\*9648  
\*9649  
\*9650  
\*9651  
\*9652  
\*9653  
\*9654  
\*9655  
+EIG1

GRID	102	0				-139.738-401.269	.000 0
GRID	103	0				-129.345-400.438	.000 0
GRID	104	0				-109.713-398.867	.000 0
GRID	105	0				-84.160 -396.823	.000 0
GRID	106	0				-53.000 -394.330	.000 0
GRID	107	0				-41.500 -393.410	.000 0
GRID	108	0				-139.738-404.997	.000 0
GRID	109	0				-128.703-404.537	.000 0
GRID	110	0				-108.954-403.714	.000 0
GRID	111	0				-83.248 -402.642	.000 0
GRID	112	0				-53.000 -401.381	.000 0
GRID	113	0				-41.500 -400.902	.000 0
GRID	114	0				-41.500 -417.400	.000 0
GRID	115	0				-25.500 -417.400	.000 0
GRID	116	0				-25.500 -417.400	.000 0
GRID	117	0				.000 -417.40	.000 0
GRID	118	0				-39.431 -373.800	.000 0
GRID	119	0				-38.792 -377.878	.000 7
GRID	120	0				-32.600 -417.400	.000 0
GRID	121	0				-41.500 -373.800	.000 0
GRID	122	0				-120.926-390.747	.000 0
GRID	123	0				-101.524-387.707	.000 0
GRID	124	0				-70.415 -382.833	.000 0
GRID	125	0				-120.235-395.153	.000 0
GRID	126	0				-100.719-392.843	.000 0
GRID	127	0				-69.427 -389.140	.000 0
GRID	128	0				-119.530-399.653	.000 0
GRID	129	0				-99.898 -398.082	.000 0
GRID	130	0				-68.420 -395.564	.000 0
GRID	131	0				-118.830-404.125	.000 0
GRID	132	0				-99.081 -403.302	.000 0
GRID	133	0				-67.414 -401.982	.000 0
GRID	134	0				-139.738-394.695	.000 7
GRID	135	0				-130.473-393.243	.000 7
GRID	136	0				-120.773-391.723	.000 7
GRID	137	0				-111.071-390.203	.000 7
GRID	138	0				-101.371-388.683	.000 7
GRID	139	0				-85.817 -386.246	.000 7
GRID	140	0				-70.262 -383.809	.000 7
GRID	141	0				-53.000 -381.104	.000 7
GRID	142	0				-41.500 -379.302	.000 7
GRID	143	0				-180.000-389.378	.000 0
GRID	153	0				.000 -100.00	.000 0
GRID	154	0				.000 -160.00	.000 0
GRID	155	0				.000 -200.00	.000 0
GRID	156	0				.000 -252.50	.000 0
GRID	163	0				.000 -60.00	.000 0
GRID	164	0				.000 -78.80	.000 0
GRID	173	5				-116.25010.466	.000 0
GRID	174	5				-88.250 12.029	.000 0
GRID	175	5				-58.250 13.701	.000 0
GRID	176	5				-19.500 15.863	.000 0
GRID	177	5				-116.2503.247	.000 0
GRID	178	5				-88.250 3.438	.000 0
GRID	179	5				-58.250 3.643	.000 0
GRID	180	5				-19.500 3.908	.000 0
GRID	181	0				-71.000 -305.615	.000 0
GRID	182	0				-71.000 -313.799	.000 0
GRID	183	0				-71.000 -329.799	.000 0
GRID	184	0				-71.000 -345.799	.000 0
GRID	185	0				-71.000 -361.799	.000 0
GRID	186	0				-71.000 -379.099	.000 7
GRID	187	0				-102.000-327.437	.000 0
GRID	188	0				-102.000-335.367	.000 0
GRID	189	0				-102.000-351.367	.000 0
GRID	190	0				-102.000-367.367	.000 0
GRID	191	0				-102.000-384.667	.000 7
GRID	192	0				-131.000-347.852	.000 0
GRID	193	0				-131.000-356.576	.000 0
GRID	194	5				-131.7503.141	.000 0
GRID	195	0				.000 -385.600	.000 0
GRID	196	0				.000 -417.000	.000 0
GRID	233	0				-41.500 -497.500	.000 0
GRID	241	0				-31.810 -497.500	.000 0
GRID	242	0				-168.385-	



GRID	292	0	-40.750	-446.100.000	0
GRID	293	0	-29.250	-446.100.000	0
GRID	294	0	-29.250	-446.100.000	0
GRID	295	0	-19.000	-446.100.000	0
GRID	296	0	.000	-426.400.000	0
GRID	298	0	.000	-385.60.000	0
GRID	299	0	-33.570	-497.500.000	0
GRID	300	0	-19.000	-417.400.000	0
GRID	357	0	.000	-452.61825.500	0
GRID	358	0	.000	-469.42445.000	0
GRID	359	0	.000	-484.34962.317	0
GRID	360	0	.000	-501.18481.850	0
GRID	361	0	.000	-518.008101.371	0
GRID	362	0	.000	-527.582112.479	0
GRID	363	0	.000	-534.495120.500	0
GRID	364	0	.000	-538.374125.000	0
GRID	367	0	.000	-446.10044.849	0
GRID	368	0	.000	-472.31270.354	0
GRID	369	0	.000	-491.06888.605	0
GRID	370	0	.000	-509.812106.844	0
GRID	371	0	.000	-520.479117.222	0
GRID	372	0	.000	-523.847120.500	0
GRID	373	0	.000	-528.472125.000	0
GRID	375	0	.000	-492.59445.000	0
GRID	376	0	.000	-498.20753.064	0
GRID	377	0	.000	-512.83174.074	0
GRID	378	0	.000	-527.44695.070	0
GRID	379	0	.000	-535.762107.018	0
GRID	380	0	.000	-545.147120.500	0
GRID	381	0	.000	-548.279125.000	0
GRID	382	0	.000	-560.736120.500	0
GRID	383	0	.000	-563.088125.000	0
GRID	384	0	.000	-498.05345.000	0
GRID	385	0	.000	-516.03771.933	0
GRID	386	0	.000	-530.24093.204	0
GRID	387	0	.000	-538.321105.309	0
GRID	388	0	.000	-548.465120.500	0
GRID	389	0	.000	-521.28945.000	0
GRID	390	0	.000	-530.36462.367	0
GRID	391	0	.000	-542.27685.168	0
GRID	392	0	.000	-549.05598.142	0
GRID	393	0	.000	-560.736120.500	0
GRID	405	0	.000	-500.00.000	0
GRID	406	0	.000	-498.24941.224	0
GRID	407	0	.000	-446.10025.500	0
GRID	408	0	.000	-509.89233.450	0
GRID	409	0	.000	-479.02125.500	0
GRID	410	0	.000	-426.40.000	0
GRID	431	0	.000	-351.70.000	0
GRID	437	0	.000	-325.40.000	0
GRID	458	0	.000	-266.92.000	0
GRID	459	0	.000	-274.55.000	0
GRID	464	0	-29.250	-492.500.000	0
GRID	465	0	-40.750	-492.500.000	0
GRID	466	0	-29.250	-502.250.000	0
GRID	467	0	-40.750	-502.250.000	0
GRID	501	0	-54.702	-473.0130.	0
GRID	502	0	-74.653	-488.0660.	0
GRID	503	0	-87.028	-497.4020.	0
GRID	504	0	-97.869	-505.5820.	0
GRID	505	0	-106.606	-512.1740.	0
GRID	506	0	-41.5	-480.2760.	0
GRID	507	0	-62.928	-493.9580.	0
GRID	508	0	-76.851	-503.2100.	0
GRID	509	0	-88.453	-510.9200.	0
GRID	510	0	-99.212	-518.0690.	0
GRID	511	0	-110.127	-525.0140.	0
GRID	512	0	-49.726	-501.2210.	0
GRID	513	0	-65.126	-509.1020.	0
GRID	514	0	-78.276	-516.7270.	0
GRID	515	0	-89.796	-523.4070.	0
GRID	516	0	-102.733	-530.9090.	0
GRID	517	0	-41.5	-519.3830.	0
GRID	518	0	-49.726	-523.1040.	0
GRID	519	0	-65.680	-527.8750.	0
GRID	520	0	-78.973	-531.8050.	0
GRID	521	0	-91.3	-535.5370.	0
GRID	522	0	-106.495	-540.3680.	0
GRID	523	0	-50.28	-541.8760.	0
GRID	524	0	-66.376	-542.9980.	0
GRID	525	0	-80.477	-544.0080.	0
GRID	526	0	-95.062	-544.9960.	0
GRID	701	3	0.	0.	0
GRID	702	3	100.	0.	0
GRID	703	3	0.	-100.	0
GRID	1001	5	-136.6059	331.355	0
GRID	1002	5	-131.7509	602.382	0
GRID	1003	5	-100.7501	1.331.560	0
GRID	1004	5	-75.750	12.725.700	0
GRID	1005	5	-40.750	14.678.895	0
GRID	1006	5	0.000	17.047.1.115	0
GRID	1007	5	24.947	18.341.1.245	0
GRID	1008	5	-141.0943	076.845	0
GRID	1010	5	-100.7503	353.1.150	0
GRID	1012	5	-75.750	3.524.1.410	0
GRID	1014	5	-40.750	3.763.1.765	0
GRID	1016	5	0.000	4.054.2.190	0
GRID	1018	5	14.758	4.143.2.080	0
GRID	1019	0	-180.000	-381.378.790	0
GRID	1020	0	-168.385	-374.169.965	1
GRID	1021	0	-157.000	-366.1541.156	0
GRID	1022	0	-147.640	-359.5651.284	0
GRID	1023	0	-143.035	-356.3241.358	1
GRID	1024	0	-139.738	-354.0031.400	0
GRID	1025	0	-122.591	-341.9321.635	1
GRID	1026	0	-120.000	-340.1081.663	0
GRID	1027	0	-93.970	-321.7852.018	1
GRID	1029	0	-86.000	-316.1742.124	0
GRID	1030	0	-60.647	-298.3272.534	1
GRID	1031	0	-41.500	-293.8004.750	0
GRID	1032	0	-54.216	-293.8002.600	0
GRID	1033	0	-41.500	-293.8003.209	0
GRID	1034	0	-25.500	-293.8009.850	0
GRID	1037	0	-41.500	-308.5005.350	0

GRID	1038	0	-54.216	-310.7842.852	0
GRID	1039	0	-41.500	-308.5003.166	0
GRID	1040	0	-25.500	-308.50010.350	0
GRID	1044	0	-86.000	-332.4942.350	0
GRID	1045	0	-41.500	-324.5005.450	0
GRID	1046	0	-54.216	-326.7842.750	0
GRID	1047	0	-41.500	-324.5002.944	0
GRID	1048	0	-25.500	-324.50010.350	0
GRID	1051	0	-139.738	-358.1461.446	0
GRID	1052	0	-120.000	-354.6011.763	0
GRID	1053	0	-86.000	-348.4942.112	0
GRID	1054	0	-41.500	-340.5005.450	0
GRID	1055	0	-54.216	-342.7842.426	0
GRID	1056	0	-41.500	-340.5002.598	0
GRID	1057	0	-25.500	-340.50010.750	0
GRID	1060	0	-168.385	-379.292.984	0
GRID	1061	0	-157.000	-377.2471.108	0
GRID	1062	0	-139.738	-374.1461.256	0
GRID	1063	0	-131.000	-372.5761.328	0
GRID	1064	0	-120.000	-370.6011.418	0
GRID	1065	0	-86.000	-364.4941.676	0
GRID	1066	0	-41.500	-356.5005.800	0
GRID	1067	0	-54.216	-358.7841.908	0
GRID	1068	0	-41.500	-356.5002.028	0
GRID	1069	0	-25.500	-356.50010.950	0
GRID	1072	0	-180.000	-398.678.330	0
GRID	1073	0	-168.385	-396.592.415	0
GRID	1074	0	-157.000	-394.547.508	0
GRID	1075	0	-139.738	-391.446.645	0
GRID	1076	0	-131.000	-389.876.706	7
GRID	1077	0	-120.000	-387.901.796	0
GRID	1078	0	-66.000	-381.7941.039	0
GRID	1079	0	-29.250	-417.4009.000	0
GRID	1080	0	-54.216	-376.0841.264	0
GRID	1081	0	-41.500	-373.8001.364	7
GRID	1082	0	-25.500	-373.80011.100	0
GRID	1085	0	-180.000	-406.675.075	0
GRID	1086	0	-168.385	-406.191.090	0
GRID	1087	0	-157.000	-405.717.115	0
GRID	1088	0	-139.738	-404.997.145	0
GRID	1094	0	-29.250	-373.8009.000	0
GRID	1096	0	-139.738	-397.461.429	0
GRID	1097	0	-129.992	-396.307.471	0
GRID	1098	0	-110.476	-393.998.557	0
GRID	1099	0	-85.073	-390.992.669	0
GRID	1100	0	-53.000	-387.196.810	0
GRID	1101	0	-41.500	-385.8352.659	0
GRID	1102	0	-139.738	-401.269.288	0
GRID	1103	0	-129.345	-400.438.318	0
GRID	1104	0	-109.713	-398.867.377	0
GRID	1105	0	-84.160	-396.823.453	0
GRID	1106	0	-53.000	-394.330.545	0
GRID	1107	0	-41.500	-393.4101.787	0
GRID	1108	0	-139.738	-404.997.150	0
GRID	1109	0	-128.703	-404.537.167	0
GRID	1110	0	-108.954	-403.714.198	0
GRID	1111	0	-83.248	-402.642.238	0
GRID	1112	0	-53.000	-401.381.285	0
GRID	1113	0	-41.500	-400.902.925	0
GRID	1114	0	-41.500	-417.4009.000	0
GRID	1121	0	-41.500	-373.8005.850	0
GRID	1125	0	-120.235	-395.153.514	0
GRID	1126	0	-100.719	-392.843.669	0
GRID	1127	0	-69.427	-389.140.737	0
GRID	1128	0	-119.530	-399.653.348	0
GRID	1129	0	-99.898	-398.082.406	0
GRID	1130	0	-68.420	-395.564.500	0
GRID	1131	0	-118.830	-404.125.182	0
GRID	1132	0	-99.081	-403.302.213	0
GRID	1133	0	-67.414	-401.982.263	0
GRID	1134	0	-139.738	-394.695.531	7
GRID	1135	0	-130.473	-393.243.585	7
GRID	1136	0	-120.773	-391.723.641	7
GRID	1137	0	-111.071	-390.203.697	7
GRID	1138	0	-101.371	-388.683.754	7
GRID	1139	0	-85.817	-386.246.844	7
GRID	1140	0	-70.262	-383.809.934	7
GRID	1141	0	-53.000	-381.1041.050	7
GRID	1142	0	-41.500	-379.3023.412	7
GRID	1143	0	-180.000	-389.378.675	0
GRID	1173	5	-116.25010	466.453	0
GRID	1174	5	-88.250	12.029.640	0
GRID	1175	5	-58.250	13.701.795	0
GRID	1176	5	-19.500	15.863.1.015	0
GRID	1177	5	-116.2503	247.990	0
GRID	1178	5	-88.250	3.438.1.303	0
GRID	1179	5	-58.250	3.643.1.590	0
GRID	1180	5	-19.500	3.908.1.980	0
GRID	1181	0	-71.000	-305.6152.359	0
GRID	1182	0	-71.000	-313.7992.486	0
GRID	1183	0	-71.000	-329.7992.524	0
GRID	1184	0	-71.000	-345.7992.242	0
GRID	1185	0	-71.000	-361.7991.776	0
GRID	1186	0	-71.000	-379.0991.138	7
GRID	1187	0	-102.000	-327.4371.904	0
GRID	1188	0	-102.000	-335.3672.032	0
GRID	1189	0	-102.000	-351.3671.954	0
GRID	1190	0	-102.00		



GRID	1258	0	-72.299	-513.2611.801	0	
GRID	1259	0	-84.253	-520.1931.437	0	
GRID	1260	0	-95.338	-526.6211.091	0	
GRID	1261	0	-110.127	-535.197.606	0	
GRID	1262	0	-41.500	-541.265.833	0	
GRID	1263	0	-59.060	-542.488.670	0	
GRID	1264	0	-73.693	-543.508.531	0	
GRID	1265	0	-87.261	-544.453.399	0	
GRID	1266	0	-102.862	-545.540.248	0	
GRID	1275	0	-40.750	-479.5505.000	0	
GRID	1276	0	-29.250	-479.5506.150	0	
GRID	1280	0	-40.750	-462.8205.500	0	
GRID	1290	0	-29.250	-462.8207.000	0	
GRID	1292	0	-40.750	-446.1005.650	0	
GRID	1293	0	-29.250	-446.1007.000	0	
GRID	1464	0	-29.250	-492.5004.500	0	
GRID	1465	0	-40.750	-492.5004.750	0	
GRID	1466	0	-29.250	-502.2503.000	0	
GRID	1467	0	-40.750	-502.2504.250	0	
GRID	1501	0	-54.702	-473.0130.868	0	
GRID	1502	0	-74.653	-488.0660.638	0	
GRID	1503	0	-87.028	-497.4020.495	0	
GRID	1504	0	-97.869	-505.5820.370	0	
GRID	1505	0	-106.606	-512.1740.268	0	
GRID	1506	0	-41.5	-480.2761.906	0	
GRID	1507	0	-62.928	-493.9581.610	0	
GRID	1508	0	-76.851	-503.2101.180	0	
GRID	1509	0	-88.453	-510.9200.934	0	
GRID	1510	0	-99.212	-518.0690.700	0	
GRID	1511	0	-110.127	-525.0140.417	0	
GRID	1512	0	-49.726	-501.2212.646	0	
GRID	1513	0	-65.126	-509.1022.152	0	
GRID	1514	0	-78.276	-516.7271.619	0	
GRID	1515	0	-89.796	-523.4071.264	0	
GRID	1516	0	-102.733	-530.9090.848	0	
GRID	1517	0	-41.5	-519.3831.812	0	
GRID	1518	0	-49.726	-523.1041.668	0	
GRID	1519	0	-65.680	-527.8751.236	0	
GRID	1520	0	-78.973	-531.8050.984	0	
GRID	1521	0	-91.3	-535.5370.745	0	
GRID	1522	0	-106.495	-540.3680.427	0	
GRID	1523	0	-50.28	-541.8760.752	0	
GRID	1524	0	-66.376	-542.9980.600	0	
GRID	1525	0	-80.477	-544.0080.465	0	
GRID	1526	0	-95.062	-544.9960.324	0	
GRID	2001	5	-136.6059.331	-355	0	
GRID	2002	5	-131.7509.602	-382	0	
GRID	2003	5	-100.75011.331	-560	0	
GRID	2004	5	-75.750	12.725	-700	0
GRID	2005	5	-40.750	14.678	-895	0
GRID	2006	5	0.000	17.047	-1.115	0
GRID	2007	5	24.947	18.241	-1.245	0
GRID	2008	5	-141.0943.076	-845	0	
GRID	2010	5	-100.7503.353	-1.150	0	
GRID	2012	5	-75.750	3.524	-1.410	0
GRID	2014	5	-40.750	3.763	-1.765	0
GRID	2016	5	0.000	4.054	-2.190	0
GRID	2018	5	14.758	4.143	-2.080	0
GRID	2019	0	-180.000	-381.378	-790	0
GRID	2020	0	-168.385	-374.169	-965	1
GRID	2021	0	-157.000	-366.154	-1.156	0
GRID	2022	0	-147.640	-359.565	-1.284	0
GRID	2023	0	-143.035	-356.324	-1.358	1
GRID	2024	0	-139.738	-354.003	-1.400	0
GRID	2025	0	-122.591	-341.932	-1.635	1
GRID	2026	0	-120.000	-340.108	-1.663	0
GRID	2027	0	-93.970	-321.785	-2.018	1
GRID	2029	0	-86.000	-316.174	-2.124	0
GRID	2030	0	-60.647	-298.327	-2.534	1
GRID	2031	0	-41.500	-293.800	-4.750	0
GRID	2032	0	-54.216	-293.800	-2.600	0
GRID	2033	0	-41.500	-293.800	-3.209	0
GRID	2034	0	-25.500	-293.800	-9.850	0
GRID	2037	0	-41.500	-308.500	-5.350	0
GRID	2038	0	-54.216	-310.784	-2.852	0
GRID	2039	0	-41.500	-308.500	-3.166	0
GRID	2040	0	-25.500	-308.500	-10.350	0
GRID	2044	0	-86.000	-332.494	-2.350	0
GRID	2045	0	-41.500	-324.500	-5.450	0
GRID	2046	0	-54.216	-326.784	-2.750	0
GRID	2047	0	-41.500	-324.500	-2.944	0
GRID	2048	0	-25.500	-324.500	-10.350	0
GRID	2051	0	-139.738	-350.146	-1.446	0
GRID	2052	0	-120.000	-354.601	-1.763	0
GRID	2053	0	-86.000	-348.494	-2.112	0
GRID	2054	0	-41.500	-340.500	-5.450	0
GRID	2055	0	-54.216	-342.784	-2.426	0
GRID	2056	0	-41.500	-340.500	-2.598	0
GRID	2057	0	-25.500	-340.500	-10.750	0
GRID	2060	0	-168.385	-379.292	-984	0
GRID	2061	0	-157.000	-377.247	-1.108	0
GRID	2062	0	-139.738	-374.146	-1.256	0
GRID	2063	0	-131.000	-372.576	-1.328	0
GRID	2064	0	-120.000	-370.601	-1.418	0
GRID	2065	0	-86.000	-364.494	-1.676	0
GRID	2066	0	-41.500	-356.500	-5.800	0
GRID	2067	0	-54.216	-358.784	-1.908	0
GRID	2068	0	-41.500	-356.500	-2.028	0
GRID	2069	0	-25.500	-356.500	-10.950	0
GRID	2072	0	-180.000	-396.678	-330	0
GRID	2073	0	-168.385	-396.592	-415	0
GRID	2074	0	-157.000	-394.547	-508	0
GRID	2075	0	-139.738	-391.446	-645	0
GRID	2076	0	-131.000	-389.876	-706	7
GRID	2077	0	-120.000	-387.901	-796	0
GRID	2078	0	-86.000	-381.794	-1.039	0
GRID	2079	0	-29.250	-417.400	-9.000	0
GRID	2080	0	-54.216	-376.084	-1.264	0
GRID	2081	0	-41.500	-373.800	-1.364	7
GRID	2082	0	-25.500	-373.800	-11.100	0
GRID	2085	0	-180.000	-406.675	-075	0
GRID	2086	0	-168.385	-406.191	-090	0
GRID	2087	0	-157.000	-405.717	-115	0
GRID	2088	0	-139.738	-404.997	-145	0

GRID	2094	0	-29.250	-373.800	-9.000	0
GRID	2096	0	-139.738	-397.461	-429	0
GRID	2097	0	-129.992	-396.307	-471	0
GRID	2098	0	-110.476	-393.998	-557	0
GRID	2099	0	-85.073	-390.992	-669	0
GRID	2100	0	-53.000	-387.196	-810	0
GRID	2101	0	-41.500	-385.835	-2.659	0
GRID	2102	0	-139.738	-401.269	-288	0
GRID	2103	0	-129.345	-400.438	-318	0
GRID	2104	0	-109.713	-398.867	-377	0
GRID	2105	0	-84.160	-396.823	-453	0
GRID	2106	0	-53.000	-394.330	-545	0
GRID	2107	0	-41.500	-393.410	-1.787	0
GRID	2108	0	-139.738	-404.997	-150	0
GRID	2109	0	-128.703	-404.537	-167	0
GRID	2110	0	-108.954	-403.714	-198	0
GRID	2111	0	-83.248	-402.642	-238	0
GRID	2112	0	-53.000	-401.381	-285	0
GRID	2113	0	-41.500	-400.902	-925	0
GRID	2114	0	-41.500	-417.400	-9.000	0
GRID	2121	0	-41.500	-373.800	-5.850	0
GRID	2125	0	-120.235	-395.153	-514	0
GRID	2126	0	-100.719	-392.843	-669	0
GRID	2127	0	-69.427	-389.140	-737	0
GRID	2128	0	-119.530	-399.653	-348	0
GRID	2129	0	-99.898	-398.082	-406	0
GRID	2130	0	-68.420	-395.564	-500	0
GRID	2131	0	-118.830	-404.125	-182	0
GRID	2132	0	-99.081	-403.302	-213	0
GRID	2133	0	-67.414	-401.982	-263	0
GRID	2134	0	-139.738	-394.695	-531	7
GRID	2135	0	-130.473	-393.243	-585	7
GRID	2136	0	-120.773	-391.723	-641	7
GRID	2137	0	-111.071	-390.203	-697	7
GRID	2138	0	-101.371	-388.683	-754	7
GRID	2139	0	-85.817	-386.246	-844	7
GRID	2140	0	-70.262	-383.809	-934	7
GRID	2141	0	-53.000	-381.104	-1.050	7
GRID	2142	0	-41.500	-379.302	-3.412	7
GRID	2143	0	-180.000	-389.378	-675	0
GRID	2173	5	-116.25010.466	-453	0	
GRID	2174	5	-88.250	12.029	-640	0
GRID	2175	5	-58.250	13.701	-795	0
GRID	2176	5	-19.500	15.863	-1.015	0
GRID	2177	5	-116.2503.247	-990	0	
GRID	2178	5	-88.250	3.438	-1.303	0
GRID	2179	5	-58.250	3.643	-1.590	0
GRID	2180	5	-19.500	3.908	-1.980	0
GRID	2181	0	-71.000	-305.615	-2.359	0
GRID	2182	0	-71.000	-313.799	-2.486	0
GRID	2183	0	-71.000	-329.799	-2.524	0
GRID	2184	0	-71.000	-345.799	-2.242	0
GRID	2185	0	-71.000	-361.799	-1.776	0
GRID	2186	0	-71.000	-379.099	-1.138	7
GRID	2187	0	-102.000	-327.437	-1.904	0
GRID	2188	0	-102.000	-335.367	-2.032	0
GRID	2189	0	-102.000	-351.367	-1.954	0
GRID	2190	0	-102.000	-367.367	-1.559	0
GRID	2191	0	-102.000	-384.667	-924	7
GRID	2192	0	-131.000	-347.852	-1.517	0
GRID	2193	0	-131.000	-356.576	-1.617	0
GRID	2194	5	-131.7503.141	-875	0	
GRID	2233	0	-41.500	-497.500	-2.790	0
GRID	2242	0	-168.385	-387.292	-764	0
GRID	2243	0	-157.000	-385.247	-862	0
GRID	2244	0	-139.738	-382.146	-1.004	0
GRID	2245	0	-131.000	-380.576	-1.080	0
GRID	2251	0	-41.500	-463.052	-1.021	0
GRID	2252	0	-67.903	-482.973	-716	0
GRID	2253	0	-81.403	-493.159	-560	0
GRID	2254	0	-92.653	-501.646	-430	0
GRID	2255	0	-103.085	-509.517	-309	0
GRID	2256	0	-110.127	-514.830	-228	0
GRID	2257	0	-57.952	-504.942	-2.503	0
GRID	2258	0	-72.299	-513.261	-1.801	0
GRID	2259	0	-84.253	-520.193	-1.437	0
GRID	2260	0	-95.338	-526.621	-1.091	0
GRID	2261	0	-110.127	-535.197	-606	0
GRID	2262	0	-41.500	-541.265	-833	0
GRID	2263	0	-59.060	-542.488	-670	0
GRID	2264	0	-73.693	-543.508	-531	0
GRID	2265	0				



GRID	2522	0	-106.495-540.368-0.427	0
GRID	2523	0	-50.28 -541.876-0.752	0
GRID	2524	0	-66.376 -542.998-0.600	0
GRID	2525	0	-80.477 -544.008-0.465	0
GRID	2526	0	-95.062 -544.996-0.324	0
GRID	3001	0	-180.000-391.391.000	0
GRID	3002	0	-183.600-318.680.000	0
GRID	3003	0	-183.600-333.520.000	0
GRID	3004	0	-183.600-347.308.000	0
GRID	3005	0	-183.600-362.900.000	0
GRID	3006	0	-183.600-377.788.000	0
GRID	3007	0	-183.600-381.378.000	0
GRID	3008	0	-183.600-391.391.000	0
GRID	3009	0	-183.600-401.762.000	0
GRID	3076	0	-157. -375.72 0.	0
GRID	3077	0	-157. -371.56 0.	0
GRID	3078	0	-157. -381.56 0.	0
GRID	3079	0	-157. -375.72 -10.	0
GRID	3080	0	-157. -336.72 -11.46	0
GRID	3081	0	-157. -367.16 -11.46	0
GRID	3082	0	-157. -371.56 -11.46	0
GRID	3083	0	-157. -375.72 -11.46	0
GRID	3084	0	-157. -381.56 -11.46	0
GRID	3085	0	-157. -391.1 -11.46	0
GRID	3086	0	-157. -293.8 -17.75	0
GRID	3087	0	-157. -336.72 -17.75	0
GRID	3088	0	-157. -354.52 -17.75	0
GRID	3089	0	-157. -367.16 -17.75	0
GRID	3090	0	-157. -391.1 -17.75	0
GRID	3091	0	-158.1 -371.56 0.	0
GRID	3092	0	-158.1 -381.56 0.	0
GRID	3093	0	-158.1 -371.56 -11.46	0
GRID	3094	0	-158.1 -381.56 -11.46	0
GRID	3095	0	-155.9 -371.56 0.	0
GRID	3096	0	-155.9 -381.56 0.	0
GRID	3097	0	-155.9 -371.56 -11.46	0
GRID	3098	0	-155.9 -381.56 -11.46	0
GRID	3196	0	-79.0 -315.2360.	0
GRID	3197	0	-63.0 -312.3620.	0
GRID	3198	0	-79.0 -331.2360.	0
GRID	3199	0	-63.0 -328.3620.	0
GRID	3200	0	-79.0 -316.87 0.	0
GRID	3201	0	-71.0 -316.87 0.	0
GRID	3202	0	-63.0 -316.87 0.	0
GRID	3203	0	-71.0 -316.87 0.	0
GRID	3204	0	-71.0 -325.4 0.	0
GRID	3205	0	-71.0 -377.3 0.	0
GRID	3206	0	-71.0 -325.4 -10.0	0
GRID	3207	0	-71.0 -325.4 -17.5	0
GRID	3208	0	-71.0 -312.6 -17.5	0
GRID	3209	0	-71.0 -312.6 -17.5	0
GRID	3210	0	-71.0 -200.0 -30.5	0
GRID	3211	0	-71.0 -302.58 -30.5	0
GRID	3212	0	-71.0 -312.6 -30.5	0
GRID	3213	0	-71.0 -340.5 -30.5	0
GRID	3500	0	-120. -334.94 -25.	0
GRID	3501	0	-120. -346.07 -11.20	0
MAT1	1	10.5E6	5.53E6	
MAT1	2	10.5E6	4.0E6	
MAT1	3	.99999E8	.99999E8	
MAT1	4	10.5E6	.99999E8	
MAT1	5	10.5E6	4.400E6	
MAT1	601	3.150E6	4.400E6	
MAT1	606	6.825E6	4.400E6	
MAT2	701	8681000.21590000.	-78300. 7164000.-78300. 2558000.	
MAT2	702	7047000.25370000.	-160600.9488000.-160600.2700000.	
MAT2	703	6618000.2464000.-254500.8980000.-254500.2625000.		
MAT2	704	6501000.2411000.-94900. 9416000.-94900. 2500000.		
MAT2	705	6047000.2622000.-109000.9502000.-109000.2783000.		
MAT2	706	7849000.2569000.-130600.7900000.-130600.2733000.		
MAT2	707	7849000.2569000.-130600.7900000.-130600.2733000.		
MAT2	708	6516000.2481000.-178900.9219000.-178900.2700000.		
MAT2	709	6299000.2424000.-149500.9651000.-149500.2700000.		
MAT2	710	6427000.2319000.-413300.9734000.-413300.2800000.		
PARAM	GRDPNT	0		
PARAM	WTMASS	0.00258		
PBAR	27	2	100. 9999. 9999. 9999.	
PBAR	2401	2	100.0 100.0 .00001 .001	+2401
+2401A				+2401A
+2401A	1.	.00000001		
PBAR	2402	2	100.0 100.0 .00001 .001	+2402
+2402A				+2402A
+2402A	1.	.00000001		
PBAR	2403	2	100.0 100.0 .00001 .001	+2403
+2403A				+2403A
+2403A	1.	.00000001		
PBAR	2404	2	100.0 100.0 .00001 .001	+2404
+2404A				+2404A
+2404A	1.	.00000001		
PBAR	2405	2	100.0 100.0 .00001 .001	+2405
+2405A				+2405A
+2405A	1.	.00000001		
PBAR	2406	2	100.0 100.0 .00001 .001	+2406
+2406A				+2406A
+2406A	1.	.00000001		
PBAR	2407	2	100.0 100.0 .00001 .001	+2407
+2407A				+2407A
+2407A	1.	.00000001		
PBAR	2408	2	100.0 100.0 .00001 .001	+2408
+2408A				+2408A
+2408A	1.	.00000001		
PBAR	2409	2	100.0 100.0 .00001 .001	+2409
+2409A				+2409A
+2409A	1.	.00000001		
PBAR	2410	2	100.0 100.0 .00001 .001	+2410
+2410A				+2410A
+2410A	1.	.00000001		
PBAR	2411	2	100.0 100.0 .00001 .001	+2411
+2411A				+2411A
+2411A	1.	.00000001		
PBAR	2412	2	100.0 100.0 .00001 .001	+2412
+2412A				+2412A
+2412A	1.	.00000001		
PBAR	2413	2	100.0 100.0 .00001 .001	+2413

+2413				
+2413A	1.	.00000001		
PBAR	2414	2	100.0 100.0 .00001 .001	+2414
+2414A				+2414A
+2414A	1.	.00000001		
PBAR	2415	2	100.0 100.0 .00001 .001	+2415
+2415A				+2415A
+2415A	1.	.00000001		
PBAR	2416	2	100.0 100.0 .00001 .001	+2416
+2416A				+2416A
+2416A	1.	.00000001		
PBAR	2417	2	100.0 100.0 .00001 .001	+2417
+2417A				+2417A
+2417A	1.	.00000001		
PBAR	2418	2	100.0 100.0 .00001 .001	+2418
+2418A				+2418A
+2418A	1.	.00000001		
PBAR	2419	2	100.0 100.0 .00001 .001	+2419
+2419A				+2419A
+2419A	1.	.00000001		
PBAR	2420	2	100.0 100.0 .00001 .001	+2420
+2420A				+2420A
+2420A	1.	.00000001		
PBAR	2421	2	100.0 100.0 .00001 .001	+2421
+2421A				+2421A
+2421A	1.	.00000001		
PBAR	2422	2	100.0 100.0 .00001 .001	+2422
+2422A				+2422A
+2422A	1.	.00000001		
PBAR	2423	2	100.0 100.0 .00001 .001	+2423
+2423A				+2423A
+2423A	1.	.00000001		
PBAR	2424	2	100.0 100.0 .00001 .001	+2424
+2424A				+2424A
+2424A	1.	.00000001		
PBAR	2425	2	100.0 100.0 .00001 .001	+2425
+2425A				+2425A
+2425A	1.	.00000001		
PBAR	2426	2	100.0 100.0 .00001 .001	+2426
+2426A				+2426A
+2426A	1.	.00000001		
PBAR	2427	2	100.0 100.0 .00001 .001	+2427
+2427A				+2427A
+2427A	1.	.00000001		
PBAR	2428	2	100.0 100.0 .00001 .001	+2428
+2428A				+2428A
+2428A	1.	.00000001		
PBAR	2429	2	100.0 100.0 .00001 .001	+2429
+2429A				+2429A
+2429A	1.	.00000001		
PBAR	2430	2	100.0 100.0 .00001 .001	+2430
+2430A				+2430A
+2430A	1.	.00000001		
PBAR	2431	2	100.0 100.0 .00001 .001	+2431
+2431A				+2431A
+2431A	1.	.00000001		
PBAR	2432	2	100.0 100.0 .00001 .001	+2432
+2432A				+2432A
+2432A	1.	.00000001		
PBAR	2433	2	100.0 100.0 .00001 .001	+2433
+2433A				+2433A
+2433A	1.	.00000001		
PBAR	2434	2	100.0 100.0 .00001 .001	+2434
+2434A				+2434A
+2434A	1.	.00000001		
PBAR	2435	2	100.0 100.0 .00001 .001	+2435
+2435A				+2435A
+2435A	1.	.00000001		
PBAR	2436	2	100.0 100.0 .00001 .001	+2436
+2436A				+2436A
+2436A	1.	.00000001		
PBAR	2437	2	100.0 100.0 .00001 .001	+2437
+2437A				+2437A
+2437A	1.	.00000001		
PBAR	2438	2	100.0 100.0 .00001 .001	+2438
+2438A				+2438A
+2438A	1.	.00000001		
PBAR	2439	2	100.0 100.0 .00001 .001	+2439
+2439A				+2439A
+2439A	1.	.00000001		
PBAR	2440	2	100.0 100.0 .00001 .001	+2440
+2440A				+2440A
+2440A	1.	.00000001		
PBAR	2441	2	100.0 100.0 .00001 .001	+2441
+2441A				+2441A
+2441A	1.	.00000001		
PBAR	2442	2	100.0 100.0 .00001 .001	+2442
+2442A				+2442A
+2442A	1.	.00000001		
PBAR	2443	2	100.0 100.0 .00001 .001	+2443
+2443A				+2443A
+2443A	1.	.00000001		
PBAR	2444	2	100.0 100.0 .00001 .001	+2444
+2444A				+2444A
+2444A	1.	.00000001		
PBAR	2445	2	100.0 100.0 .00001 .001	+2445
+2445A				+2445A
+2445A	1.	.00000001		
PBAR	2446	2	100.0 100.0 .00001 .001	+2446
+2446A				+2446A
+2446A	1.	.00000001		
PBAR	2447	2	100.0 100.0 .00001 .001	+2447
+2447A				+2447A
+2447A	1.	.00000001		
PBAR	2448	2	100.0 100.0 .00001 .001	+2448
+2448A				+2448A
+2448A	1.	.00000001		
PBAR	2449	2	100.0 100.0 .00001 .001	+2449
+2449A				+2449A
+2449A	1.	.00000001		
PBAR	2450	2	100.0 100.0 .00001 .001	+2450
+2450A				+2450A
+2450A	1.	.00000001		
PBAR	2451	2	100.0 100.0 .00001 .001	+2451



+2451	1.	.00000001							
PBAR	2452	2	100.0	100.0	.000001	.001			
+2452	1.	.00000001							
PBAR	2453	2	100.0	100.0	.000001	.001			
+2453	1.	.00000001							
PBAR	2454	2	100.0	100.0	.000001	.001			
+2454	1.	.00000001							
PBAR	2455	2	100.0	100.0	.000001	.001			
+2455	1.	.00000001							
PBAR	2456	2	100.0	100.0	.000001	.001			
+2456	1.	.00000001							
PBAR	2457	2	100.0	100.0	.000001	.001			
+2457	1.	.00000001							
PBAR	2458	2	100.0	100.0	.000001	.001			
+2458	1.	.00000001							
PBAR	2459	2	100.0	100.0	.000001	.001			
+2459	1.	.00000001							
PBAR	2460	2	100.0	100.0	.000001	.001			
+2460	1.	.00000001							
PBAR	3502	2	10000.	99990.	99990.	99990.			
PBEAM	1	2	.690	480.000	371.450		.001		
+1	NO	1.0		593.000	547.400				
+1A	0.	1.							
PBEAM	2	2	.690	593.000	547.400		.001		
+2	NO	1.0		736.000	606.050				
+2A	0.	1.							
PBEAM	3	2	4.140	896.000	655.500		640.		
+3	NO	1.0		912.000	656.500				
+3A	0.	1.							
PBEAM	4	2	4.140	912.000	656.500		2175.		
+4	NO	1.0		3104.000	1780.000				
+4A	0.	1.							
PBEAM	5	2	4.140	3104.000	1780.000		2770.		
+5	NO	1.0		6240.000	3625.000				
+5A	0.	1.							
PBEAM	6	2	3.600	8000.000	4245.000		5250.		
+6	NO	1.0		7900.000	4430.000				
+6A	0.	1.							
PBEAM	7	2	1980.000	7900.000	4430.000		5250.		
+7	NO	1.0		8100.000	4170.000				
+7A	0.	1.							
PBEAM	8	2	1980.000	8100.000	4170.000		5250.		
+8	NO	1.0		9400.000	3900.000				
+8A	0.	1.							
PBEAM	9	2	1980.000	9400.000	3900.000		5250.		
+9	NO	1.0		9400.000	3887.062				
+9A	0.	1.							
PBEAM	10	2	1980.000	9400.000	3887.062		5250.		
+10	NO	1.0		10100.000	3670.000				
+10A	0.	1.							
PBEAM	11	2	1980.000	10100.000	3670.000		5250.		
+11	NO	1.0		10000.000	3691.000				
+11A	0.	1.							
PBEAM	12	2	1980.000	10000.000	3691.000		5250.		
+12	NO	1.0		9600.000	3700.000				
+12A	0.	1.							
PBEAM	13	2	1980.000	9600.000	3700.000		5250.		
+13	NO	1.0		8750.000	3780.000				
+13A	0.	1.							
PBEAM	14	2	1980.000	8750.000	3780.000		5250.		
+14	NO	1.0		8123.630	3590.000				
+14A	0.	1.							
PBEAM	15	2	1980.000	8123.630	3590.000		5250.		
+15	NO	1.0		7200.000	3340.000				
+15A	0.	1.							
PBEAM	16	2	1980.000	7200.000	3340.000		5067.5		
+16	NO	1.0		6425.000	1872.000				
+16A	0.	1.							
PBEAM	17	2	1980.000	6425.000	1872.000		4910.0		
+17	NO	1.0		1980.000	6375.000				
+17A	0.	1.		.0000					
PBEAM	18	2	1980.000	6375.000	1791.000		4725.0		
+18	NO	1.0		1980.000	6200.000				
+18A	0.	1.		.0000					
PBEAM	19	2	1980.000	6200.000	1470.000		4515.0		
+19	NO	1.0		1980.000	6900.000				
+19A	0.	1.		.0000					
PBEAM	20	2	1980.000	6900.000	1374.000		4375.5		
+20	NO	1.0		1980.000	8250.000				
+20A	0.	1.		.0000					
PBEAM	21	2	1980.000	8250.000	1167.000		4147.5		
+21	NO	1.0		1980.000	8250.000				
+21A	0.	1.		.0000					
PBEAM	22	2	1.	8250.000	960.000		3885.		
+22	NO	1.0		8250.000					
+22A	0.	0.							
PBEAM	31	2	200.000	9999.0	99999.00		.01		
+31	NO	1.0		197.000					
PBEAM	32	2	200.000	9999.0	99999.00		.01		
+32	NO	1.0		200.000					
PBEAM	33	2	200.000	9999.0	99999.00		.01		
+33	NO	1.0		207.000					
PBEAM	34	2	200.000	9999.0	99999.00		.01		
+34	NO	1.0		215.000					
PBEAM	35	2	200.000	9999.0	99999.00		.01		
+35	NO	1.0		219.000					
PBEAM	36	2	200.000	9999.0	99999.00		.01		
+36	NO	1.0		222.000					
PBEAM	37	2	1980.000	9999.0	9999.00		.01		
+37	NO	1.0		1188.000					
PBEAM	38	2	1.970	9999.0	251.45		.01		
+38	NO	1.0		.950	49.35				
PBEAM	39	2	4.140	9999.0	323.80				
+39	NO	1.0		2.140	123.20				

+2451A									
+2452									
+2452A									
+2453									
+2453A									
+2454									
+2454A									
+2455									
+2455A									
+2456									
+2456A									
+2457									
+2457A									
+2458									
+2458A									
+2459									
+2459A									
+2460									
+2460A									
+1									
+1A									
+2									
+2A									
+3									
+3A									
+4									
+4A									
+5									
+5A									
+6									
+6A									
+7									
+7A									
+8									
+8A									
+9									
+9A									
+10									
+10A									
+11									
+11A									
+12									
+12A									
+13									
+13A									
+14									
+14A									
+15									
+15A									
+16									
+16A									
+17									
+17A									
+18									
+18A									
+19									
+19A									
+20									
+20A									
+21									
+21A									
+22									
+22A									
+31									
+32									
+33									
+34									
+35									
+36									
+37									
+38									
+39									

PBEAM	40	2	4.140	9999.0	284.10				+40
+40	NO	1.0	2.180		140.90				
PBEAM	41	2	5.590	9999.0	376.40				+41
+41	NO	1.0	2.834		124.70				
PBEAM	42	2	3.942	9999.0	379.30				+42
+42	NO	1.0	2.088		112.40				
PBEAM	43	2	2.886	9999.0	350.15				+43
+43	NO	1.0	2.340		293.75				
PBEAM	44	2	2.340	9999.0	293.75				+44
+44	NO	1.0	1.430		99.875				
PBEAM	45	2	1.430	9999.0	99.875		.001		+45
+45	NO	1.0	1.521		76.375				
PBEAM	46	2	2.250	9999.0	215.00		.001		+46
+46	NO	1.0	2.250		162.00				
PBEAM	47	2	2.250	9999.0	162.00				+47
+47	NO	1.0	1.875		133.00				
PBEAM	48	2	1.875	9999.0	133.00				+48
+48	NO	1.0	2.250		46.00				
PBEAM	49	2	1.256	1.	41.26		.001		+49
+49	NO	1.0	1.354		51.57				+49A
+49A	0.	1.		-1.188					
PBEAM	50								



PBEAM	169	2	4.200	1.	20.00	.001	+169	+1031	NO	1.	.638206	13.539	+1031A
+169	NO	1.0	3.210		20.00		+169A	+1031A	0.	1.	-5.84-2		
+169A	0.	1.	.0000		20.00			PBEAM	1033	2	0.0327	1.	+1033
PBEAM	170	2	3.210	1.	20.00	.001	+170	+1033	NO	1.	0.03526	0.529	+1033A
+170	NO	1.0	3.300		20.00		+170A	+1033A	0.	1.	-7.53-2		
+170A	0.	1.	.0000					PBEAM	1034	2	.461906	1.	+1034
PBEAM	171	2	1980.0001.		9999.00	.001	+171	+1034	NO	1.	.371385	8.407	+1034A
+171	NO	1.0	1980.000		9999.00		+171A	+1034A	0.	1.	.217		
+171A	0.	1.	.0000					PBEAM	1035	2	0.1134	1.	+1035
PBEAM	172	2	1.230	1.	84.87	.001	+172	+1035	NO	1.	0.0864	.140	+1035A
+172	NO	1.0	1.000		57.12		+172A	+1035A	0.	1.	.270		
+172A	0.	1.	.2063					PBEAM	1036	2	.371385	1.	+1036
PBEAM	173	2	1.125	1.	41.92	.001	+173	+1036	NO	1.	.208421	2.466	+1036A
+173	NO	1.0	1.188		46.53		+173A	+1036A	0.	1.	.562		
+173A	0.	1.	-.0541					PBEAM	1037	2	0.0864	1.	+1037
PBEAM	174	2	.750	1.	12.63	.001	+174	+1037	NO	1.	0.06364	.0759	+1037A
+174	NO	1.0	1.063		23.78		+174A	+1037A	0.	1.	.303		
+174A	0.	1.	-.3448					PBEAM	1038	2	0.54612	1.	+1038
PBEAM	175	2	1059.3001.		9999.00	.001	+175	+1038	NO	1.	0.58212	5.507	+1038A
+175	NO	1.0	841.500		9999.00		+175A	+1038A	0.	1.	-6.38-2		
+175A	0.	1.	.0000					PBEAM	1039	2	0.19404	1.	+1039
PBEAM	176	2	75.000	1.	2.98	.001	+176	+1039	NO	1.	0.15936	2.212	+1039A
+176	NO	1.0	79.000		12.10		+176A	+1039A	0.	1.	.196		
+176A	0.	1.	.0000					PBEAM	1040	2	0.15936	1.	+1040
PBEAM	177	2	79.000	1.	12.10	.001	+177	+1040	NO	1.	0.1296	.140	+1040A
+177	NO	1.0	82.000		29.71		+177A	+1040A	0.	1.	.206		
+177A	0.	1.	.0000					PBEAM	1041	2	0.216	1.	+1041
PBEAM	178	2	82.000	1.	29.71	.001	+178	+1041	NO	1.	0.1411	.0995	+1041A
+178	NO	1.0	85.000		29.71		+178A	+1041A	0.	1.	.419		
+178A	0.	1.	.0000					PBEAM	1043	2	.1148	1.	+1043
PBEAM	179	2	85.000	9999.0	46.06	.001	+179	+1043	NO	1.	.118531	.255	+1043A
+179	NO	1.0	90.000					+1043A	0.	1.	-3.20-2		
+179A	0.	1.	.0000					PBEAM	1045	2	0.02716	1.	+1045
PBEAM	180	2	90.000	9999.0	46.06	.001	+180	+1045	NO	1.	0.02891	0.119	+1045A
+180	NO	1.0	55.800		31.90		+180A	+1045A	0.	1.	-6.24-2		
PBEAM	181	2	990.000	1.	9999.00	.001	+181	+1045A	0.	1.	.118531	1.	+1046
+181	NO	1.0	990.000	1.	9999.00	.001	+182	+1046	NO	1.	.103033	.193	+1046A
+182	NO	1.0	1.34778	1.	14.325		+1001	+1046A	0.	1.	.140		
PBEAM	1001	2	1.32951		14.209		+1001A	+1047	NO	1.	0.02568	1.	+1047
+1001	NO	1.	1.32951	1.36-2			+1002	+1047A	0.	1.	0.02513		
PBEAM	1002	2	1.32951	1.	14.209		+1002A	+1048	NO	1.	.103033	1.	+1048
+1002	NO	1.	1.23648		13.640		+1003	+1048A	0.	1.	.082328	.123	+1048A
+1002A	0.	1.	7.25-2				+1003A	+1048A	0.	1.	.223		
PBEAM	1003	2	1.23648	1.	13.640		+1004	+1049	NO	1.	.082328	1.	+1049
+1003	NO	1.	1.09137		12.836		+1004A	+1049A	0.	1.	.05289	.953	+1049A
+1003A	0.	1.	.125					+1050	NO	1.	12.9	1.	+1050
PBEAM	1004	2	1.09137	1.	12.836		+1005	+1050A	NO	1.	2.9	.15	+1050A
+1004	NO	1.	0.85176		11.727		+1005A	+1051	NO	1.	0.41616	1.	+1051
+1004A	0.	1.	.247				+1006	+1051A	0.	1.	0.39888	4.214	+1051A
PBEAM	1005	2	0.85176	1.	11.727		+1007	+1052	NO	1.	0.28808	1.	+1052
+1005	NO	1.	0.57309		10.782		+1007A	+1052A	NO	1.	0.22399	2.323	+1052A
+1005A	0.	1.	.391					+1052A	0.	1.	.250		
PBEAM	1007	2	0.5201	1.	4.137		+1009	+1053	NO	1.	0.22399	1.	+1053
+1007	NO	1.	0.5704		4.188		+1009A	+1053A	0.	1.	0.13195	.877	+1053A
+1007A	0.	1.	-9.23-2					+1053A	0.	1.	.517		
PBEAM	1009	2	0.05068	1.	7.4		+1010	+1054	NO	1.	10.15	1.	+1054
+1009	NO	1.	0.05704				+1010A	+1054A	0.	1.	2.3	.15	+1054A
+1009A	0.	1.	-.118					+1054A	0.	1.	1.261		
PBEAM	1010	2	0.68448	1.	11.387		+1011	+1056	NO	1.	0.0772	1.	+1056
+1010	NO	1.	0.65988		10.584		+1011A	+1056A	NO	1.	.07868	.116	+1056A
+1010A	0.	1.	3.66-2					+1056A	0.	1.	-1.90-2		
PBEAM	1011	2	0.65988	1.	3.834		+1012	+1057	NO	1.	0.07868	1.	+1057
+1011	NO	1.	0.58224		3.781		+1012A	+1057A	NO	1.	0.06116	.0701	+1057A
+1011A	0.	1.	.125					+1057A	0.	1.	.251		
PBEAM	1012	2	0.4852	1.	2.985		+1013	+1058	NO	1.	0.06116	1.	+1058
+1012	NO	1.	0.3817		3.085		+1013A	+1058A	NO	1.	.0332	.173	+1058A
+1012A	0.	1.	.239					+1058A	0.	1.	.593		
PBEAM	1013	2	0.3817	1.	4.113		+1014	+1059	NO	1.	8.3	1.	+1059
+1013	NO	1.	0.2527		3.779		+1014A	+1059A	NO	1.	1.8	.15	+1059A
+1013A	0.	1.	.407					+1059A	0.	1.	1.287		
PBEAM	1014	2	1.1795	1.	32.608		+1015	+1060	NO	1.	0.6004	1.	+1060
+1014	NO	1.	1.24325		37.764		+1015A	+1060A	NO	1.	0.513	1.073	+1060A
+1014A	0.	1.	-5.26-2					+1060A	0.	1.	.157		
PBEAM	1015	2	1.24325	1.	35.291		+1016	+1061	NO	1.	0.513	1.	+1061
+1015	NO	1.	1.26225		36.787		+1016A	+1061A	NO	1.	.2508	.265	+1061A
+1015A	0.	1.	-1.52-2					+1061A	0.	1.	.687		
PBEAM	1016	2	1.0098	1.	36.787		+1017	+1062	NO	1.	6.6	1.	+1062
+1016	NO	1.	0.897		28.514		+1017A	+1062A	NO	1.	1.5	.15	+1062A
+1016A	0.	1.	.118					+1062A	0.	1.	1.259		
PBEAM	1017	2	0.897	1.	28.514		+1018	+1071	NO	1.	.563180	1.	+1071
+1017	NO	1.	0.7106		17.378		+1018A	+1071A	NO	1.	.456388	12.840	+1071A
+1017A	0.	1.	.232					+1071A	0.	1.	.209		
PBEAM	1018	2	0.88825	1.	17.378		+1020	+1072	NO	1.	.682631	1.	+1072
+1018	NO	1.	0.569		7.448		+1020A	+1072A	NO	1.	.665175	7.859	+1072A
+1018A	0.	1.	.438					+1072A	0.	1.	2.59-2		
PBEAM	1020	2	.174168	1.	2.924		+1022	+1073	NO	1.	.554312	1.	+1073
+1020	NO	1.	.192741		3.774		+1022A	+1073A	NO	1.	.515704	6.811	+1073A
+1020A	0.	1.	-.101					+1073A	0.	1.	7.15-2		
PBEAM	1022	2	.004037	1.	8.0		+1023	+1074	NO	1.	.58975	1.	+1074
+1022	NO	1.	.004701		3.		+1023A	+1074A	NO	1.	.531	6.135	+1074A
+1022A	0.	1.	-.152					+1074A	0.	1.	.105		
PBEAM	1023	2	.192741	1.	3.774		+1024	+1075	NO	1.	.675834	1.	+1075
+1023	NO	1.	.173225		1.931		+1024A	+1075A	NO	1.	.608902	25.555	+1075A
+1023A	0.	1.	.107					+1075A	0.	1.	.104		
PBEAM	1024	2	.173225	1.	1.931		+1025	+1076	NO	1.	.74152	1.	+1076
+1024	NO	1.	.137473		.991		+1025A	+1076A	NO	1.	.64649	10.312	+1076A
+1024A	0.	1.	.230					+1076A	0.	1.	.137		
PBEAM	1025	2	.137473	1.	.991		+1026	+1077	NO	1.	0.59676	1.	+1077
+1025	NO	1.	.085198		4.751		+1026A	+1077A	NO	1.	0.50976	2.256	+1077A
+1025A	0.	1.	.470					+1077A	0.	1.	.157		
PBEAM	1026	2	0.53326	1.	4.915		+1027	+1078	NO	1.	.531	1.	+1078
+1026	NO	1.	0.56896		4.995		+1027A	+1078A	NO	1.	.504625	5.541	+1078A
+1026A	0.	1.	-6.48-2					+1078A	0.	1.	5.09-2		
PBEAM	1027	2	0.97536	1.	4.995		+1028	+1079	NO	1.	0.52481	1.	+1079
+1027	NO	1.	.93792		4.858		+1028A	+1079A	NO	1.	0.49517	4.933	+1079A
+1027A	0.	1.	3.91-2					+1079A	0.	1.	5.81-2		
PBEAM	1028	2	0.54712	1.	4.858		+1029	+1080	NO	1.	0.41899	1.	+1080
+1028	NO	1.	0.43652		2.292		+1029A	+1080A	NO	1.	0.36586	6.161	+1080A
+1028A	0.	1.	.225					+1080A	0.	1.	.135		
PBEAM	1029	2	0.12472	1.	2.292		+1031	+1081	NO	1.	.902630	1.	+1081
+1029	NO	1.	0.07392		.998								
+1029A	0.	1.	.511										
PBEAM	1031	2	.602006	1.	12.135								



+1081	NO	1.	.842997	31.687
+1081A	O.	1.	6.83-2	
PBEAM	1082	2	.756112	9.525
+1082	NO	1.	.694238	19.190
+1082A	O.	1.	8.53-2	
PBEAM	1083	2	0.90882	14.949
+1083	NO	1.	0.84618	2.210
+1083A	O.	1.	7.14-2	
PBEAM	1084	2	0.9402	2.762
+1084	NO	1.	0.8128	2.065
+1084A	O.	1.	.145	
PBEAM	1085	2	0.48768	2.242
+1085	NO	1.	0.39912	2.251
+1085A	O.	1.	.200	
PBEAM	1086	2	0.73172	4.425
+1086	NO	1.	0.7194	4.277
+1086A	O.	1.	1.70-2	
PBEAM	1087	2	0.7194	4.277
+1087	NO	1.	0.66748	3.682
+1087A	O.	1.	7.49-2	
PBEAM	1088	2	0.48544	3.682
+1088	NO	1.	0.448	3.136
+1088A	O.	1.	8.02-2	
PBEAM	1089	2	0.616	3.136
+1089	NO	1.	0.59752	2.951
+1089A	O.	1.	3.05-2	
PBEAM	1090	2	0.59752	3.319
+1090	NO	1.	0.56496	2.968
+1090A	O.	1.	5.60-2	
PBEAM	1091	2	.964044	26.163
+1091	NO	1.	.900046	33.946
+1091A	O.	1.	6.87-2	
PBEAM	1092	2	.80058	8.240
+1092	NO	1.	.740025	7.040
+1092A	O.	1.	7.86-2	
PBEAM	1093	2	0.9867	3.017
+1093	NO	1.	0.9295	2.678
+1093A	O.	1.	5.97-2	
PBEAM	1094	2	0.7605	2.231
+1094	NO	1.	0.70344	1.909
+1094A	O.	1.	7.80-2	
PBEAM	1095	2	0.62528	2.245
+1095	NO	1.	0.56416	5.554
+1095A	O.	1.	.103	
PBEAM	1096	2	1.12832	3.720
+1096	NO	1.	1.03488	3.138
+1096A	O.	1.	8.64-2	
PBEAM	1097	2	0.58212	.9936
+1097	NO	1.	0.52038	.794
+1097A	O.	1.	.112	
PBEAM	1098	2	0.46256	.878
+1098	NO	1.	0.41088	.692
+1098A	O.	1.	.118	
PBEAM	1099	2	0.56496	2.968
+1099	NO	1.	0.50864	3.405
+1099A	O.	1.	.105	
PBEAM	1100	2	0.32368	2.951
+1100	NO	1.	0.2702	1.360
+1100A	O.	1.	.180	
PBEAM	1101	2	0.2895	1.434
+1101	NO	1.	0.237	1.561
+1101A	O.	1.	.199	
PBEAM	1102	2	.803494	19.105
+1102	NO	1.	.756148	18.318
+1102A	O.	1.	6.07-2	
PBEAM	1103	2	.868368	3.7
+1103	NO	1.	.808308	3.656
+1103A	O.	1.	7.16-2	
PBEAM	1104	2	0.56848	7.616
+1104	NO	1.	0.53648	2.977
+1104A	O.	1.	5.79-2	
PBEAM	1105	2	0.53648	1.985
+1105	NO	1.	0.49888	2.015
+1105A	O.	1.	7.26-2	
PBEAM	1106	2	0.49888	2.217
+1106	NO	1.	0.4536	2.014
+1106A	O.	1.	9.51-2	
PBEAM	1107	2	0.70875	2.009
+1107	NO	1.	0.664	1.764
+1107A	O.	1.	6.52-2	
PBEAM	1108	2	0.3984	.670
+1108	NO	1.	0.37695	.600
+1108A	O.	1.	5.53-2	
PBEAM	1109	2	0.37695	.600
+1109	NO	1.	0.3324	1.367
+1109A	O.	1.	.126	
PBEAM	1110	2	0.35456	1.367
+1110	NO	1.	0.31472	.368
+1110A	O.	1.	.119	
PBEAM	1111	2	0.15736	.242
+1111	NO	1.	0.1264	1.156
+1111A	O.	1.	.218	
PBEAM	1112	2	0.1728	.303
+1112	NO	1.	0.16064	.262
+1112A	O.	1.	7.29-2	
PBEAM	1113	2	0.16064	.222
+1113	NO	1.	0.13784	.163
+1113A	O.	1.	.153	
PBEAM	1114	2	0.13784	.148
+1114	NO	1.	0.12232	.117
+1114A	O.	1.	.119	
PBEAM	1115	2	0.12232	.117
+1115	NO	1.	0.108	.991
+1115A	O.	1.	.124	
PBEAM	1116	2	.337714	19.909
+1116	NO	1.	.312716	19.868
+1116A	O.	1.	7.69-2	
PBEAM	1117	2	0.85918	3.590
+1117	NO	1.	0.77384	3.626
+1117A	O.	1.	.105	
PBEAM	1118	2	0.54624	6.20
+1118	NO	1.	0.49872	2.937
+1118A	O.	1.	9.10-2	
PBEAM	1119	2	0.39482	1.371

+1081A				
+1082				
+1082A				
+1083				
+1083A				
+1084				
+1084A				
+1085				
+1085A				
+1086				
+1086A				
+1087				
+1087A				
+1088				
+1088A				
+1089				
+1089A				
+1090				
+1090A				
+1091				
+1091A				
+1092				
+1092A				
+1093				
+1093A				
+1094				
+1094A				
+1095				
+1095A				
+1096				
+1096A				
+1097				
+1097A				
+1098				
+1098A				
+1099				
+1099A				
+1100				
+1100A				
+1101				
+1101A				
+1102				
+1102A				
+1103				
+1103A				
+1104				
+1104A				
+1105				
+1105A				
+1106				
+1106A				
+1107				
+1107A				
+1108				
+1108A				
+1109				
+1109A				
+1110				
+1110A				
+1111				
+1111A				
+1112				
+1112A				
+1113				
+1113A				
+1114				
+1114A				
+1115				
+1115A				
+1116				
+1116A				
+1117				
+1117A				
+1118				
+1118A				
+1119				

+1119	NO	1.	0.35112	1.197
+1119A	O.	1.	.117	
PBEAM	1120	2	0.31416	1.796
+1120	NO	1.	0.27047	1.622
+1120A	O.	1.	.149	
PBEAM	1121	2	0.36593	.570
+1121	NO	1.	0.32453	.448
+1121A	O.	1.	.120	
PBEAM	1122	2	0.23987	.388
+1122	NO	1.	0.2193	.324
+1122A	O.	1.	8.96-2	
PBEAM	1123	2	2.193	0.577
+1123	NO	1.	1.7255	0.319
+1123A	O.	1.	.239	
PBEAM	1124	2	1.7255	.1
+1124	NO	1.	1.411	0.186
+1124A	O.	1.	.201	
PBEAM	1125	2	1.411	0.186
+1125	NO	1.	1.122	0.37
+1125A	O.	1.	.228	
PBEAM	1126	2	0.290	.15
+1126	NO	1.	0.230	
+1126A	O.	1.	.231	
PBEAM	1127	2	0.230	.15
+1127	NO	1.	0.180	
+1127A	O.	1.	.244	
PBEAM	1128	2	0.180	.15
+1128	NO	1.	0.150	
+1128A	O.	1.	.182	
PBEAM	1131	2	24.900	2.334
+1131	NO	1.0	41.600	4.497
+1131A	O.	1.	-.502	
PBEAM	1132	2	22.300	1.258
+1132	NO	1.0	43.800	6.091
+1132A	O.	1.	-.651	
PBEAM	1133	2	43.800	6.091
+1133	NO	1.0	46.400	8.843
+1133A	O.	1.	-.058	
PBEAM	1134	2	46.4	100.13.5
+1134	NO	1.	50.68	10.
+1134A	O.	1.	50.68	
PBEAM	1135	2	20.300	1.601
+1135	NO	1.0	39.600	5.214
+1135A	O.	1.	-.644	
PBEAM	1136	2	17.900	1.469
+1136	NO	1.0	35.300	4.849
+1136A	O.	1.	-.654	
PBEAM	1137	2	35.300	4.849
+1137	NO	1.0	39.910	7.360
+1137A	O.	1.	-.123	
PBEAM	1138	2	39.91	100.10.5
+1138	NO	1.	40.37	10.
+1138A	O.	1.	-.15-2	
PBEAM	1139	2	15.900	1.286
+1139	NO	1.0	31.800	4.283
+1139A	O.	1.	-.667	
PBEAM	1140	2	14.000	.836
+1140	NO	1.0	28.200	2.827
+1140A	O.	1.	-.673	
PBEAM	1141	2	28.200	2.827
+1141	NO	1.0	32.160	4.634
+1141A	O.	1.	-.131	
PBEAM	1142	2	32.16	100.7.94
+1142	NO	1.	32.70	10.
+1142A	O.	1.	-1.67-2	
PBEAM	1143	2	12.800	.537
+1143	NO	1.0	26.050	1.860
+1143A	O.	1.	-.682	
PBEAM	1144	2	11.190	.541
+1144	NO	1.0	23.000	1.894
+1144A	O.	1.	-.691	
PBEAM	1145	2	23.000	1.894
+1145	NO	1.0	25.560	3.414
+1145A	O.	1.	-.105	
PBEAM	1146	2	25.56	100.6.5
+1146	NO	1.	27.16	10.
+1146A	O.	1.	-6.070-2	
PBEAM	1147	2	9.060	.492
+1147	NO	1.0	19.800	1.700
+1147A	O.	1.	-.744	
PBEAM	1148	2	7.640	.210
+1148	NO	1.0	17.500	.929
+1148A	O.	1.	-.784	
PBEAM	1149	2	17.500	.929
+1149	NO	1.0	18.620	1.942
+1149A	O.	1.	-.062	
PBEAM	1150	2	18.62	100.4.32
+1150	NO	1.	19.3	10.
+1150A	O.	1.	-3.59-2	
PBEAM	1151	2	7.100	.042
+1151	NO	1.0	16.900	.269
+1151A	O.	1.	-.817	
PBEAM	1152	2	22.300	1.150
+1152	NO	1.0	24.900	1.440
+1152A	O.	1.	-.110	
PBEAM	1153	2	20.300	.870
+1153	NO	1.0	22.300	1.150
+1153A	O.	1.	-.094	
PBEAM	1154	2	17.900	.630
+1154	NO	1.0	20.300	.870
+1154A	O.	1.	-.126	
PBEAM	1155	2	15.900	.470
+1155	NO	1.0	17.900	.630
+1155A	O.	1.	-.118	
PBEAM	1156	2	14.000	.340
+1156	NO	1.0	15.900	.470
+1156A	O.	1.	-.127	
PBEAM	1157	2	12.800	.260
+1157	NO	1.0	14.000	.3



+1159	NO	1.0	11.190	.280		+1159A		+1206	NO	1.0	7.530	.03700		+1206A	
+1159A	0.	1.		-.210				+1206A	0.	1.		.3859			
PBEAM	1160	2	7.640	1.	.170	+1160		PBEAM	1207	2	7.530	1.	.03700	.265	+1207
+1160	NO	1.0	9.060		.260	+1160A		+1207	NO	1.0	3.950		.00580		+1207A
+1160A	0.	1.		-.170				+1207A	0.	1.		.6237			
PBEAM	1161	2	7.100	1.	.120	+1161		PBEAM	1208	2	12.820	1.	1.20000	.265	+1208
+1161	NO	1.0	7.640		.170	+1161A		+1208	NO	1.0	12.820		1.20000		+1208A
+1161A	0.	1.		-.073				+1208A	0.	1.		.0000			
PBEAM	1162	2	43.800	1.	5.189	+1162		PBEAM	1209	2	12.820	1.	1.20000	.265	+1209
+1162	NO	1.0	41.600		5.636	+1162A		+1209	NO	1.0	10.280		.07100		+1209A
+1162A	0.	1.		.052				+1209A	0.	1.		-.2199			
PBEAM	1163	2	39.600	1.	4.049	+1163		PBEAM	1210	2	10.280	1.	.07100	.265	+1210
+1163	NO	1.0	43.800		5.170	+1163A		+1210	NO	1.0	6.960		.02500		+1210A
+1163A	0.	1.		-.101				+1210A	0.	1.		.3852			
PBEAM	1164	2	35.300	1.	3.053	+1164		PBEAM	1211	2	6.960	1.	.02500	.265	+1211
+1164	NO	1.0	39.600		4.049	+1164A		+1211	NO	1.0	3.640		.00370		+1211A
+1164A	0.	1.		-.115				+1211A	0.	1.		.6264			
PBEAM	1165	2	31.800	1.	2.364	+1165		PBEAM	1212	2	0.7055	100.	0.32	.001	+1212
+1165	NO	1.0	35.300		3.040	+1165A		+1212	NO	1.	0.63		0.25		+1212A
+1165A	0.	1.		-.104				+1212A	0.	1.		.113			
PBEAM	1166	2	28.200	1.	1.762	+1166		PBEAM	1213	2	12.600	1.	.70000	.265	+1213
+1166	NO	1.0	31.800		2.354	+1166A		+1213	NO	1.0	11.690		.70000		+1213A
+1166A	0.	1.		-.120				+1213A	0.	1.		.0749			
PBEAM	1167	2	26.050	1.	1.444	+1167		PBEAM	1214	2	11.690	1.	.70000	.265	+1214
+1167	NO	1.0	28.200		1.754	+1167A		+1214	NO	1.0	9.420		.05530		+1214A
+1167A	0.	1.		-.079				+1214A	0.	1.		.2151			
PBEAM	1168	2	23.000	1.	1.274	+1168		PBEAM	1215	2	9.420	1.	.05530	.265	+1215
+1168	NO	1.0	26.050		1.431	+1168A		+1215	NO	1.0	6.360		.01900		+1215A
+1168A	0.	1.		-.124				+1215A	0.	1.		.3878			
PBEAM	1169	2	19.800	1.	1.019	+1169		PBEAM	1216	2	6.360	1.	.01900	.265	+1216
+1169	NO	1.0	23.000		1.269	+1169A		+1216	NO	1.0	3.330		.00290		+1216A
+1169A	0.	1.		-.150				+1216A	0.	1.		.6254			
PBEAM	1170	2	17.500	1.	.706	+1170		PBEAM	1217	2	11.400	1.	.40000	.265	+1217
+1170	NO	1.0	19.800		1.007	+1170A		+1217	NO	1.0	10.620		.40000		+1217A
+1170A	0.	1.		-.123				+1217A	0.	1.		.0708			
PBEAM	1171	2	16.900	1.	.588	+1171		PBEAM	1218	2	10.620	1.	.40000	.265	+1218
+1171	NO	1.0	17.500		.709	+1171A		+1218	NO	1.0	8.570		.01970		+1218A
+1171A	0.	1.		-.035				+1218A	0.	1.		.2137			
PBEAM	1181	2	0.341	100.	4.328		.001	PBEAM	1219	2	8.570	1.	.01970	.265	+1219
+1181	NO	1.	1.0025		10.953			+1219	NO	1.0	5.750		.00760		+1219A
+1181A	0.	1.		-.984				+1219A	0.	1.		.3939			
PBEAM	1182	2	1.604	1.	75.00000		.265	PBEAM	1220	2	5.750	1.	.00760	.265	+1220
+1182	NO	1.0	1.365		70.00000			+1220	NO	1.0	2.990		.00130		+1220A
+1182A	0.	1.		-.1611				+1220A	0.	1.		.6316			
PBEAM	1183	2	68.240	1.	70.00000		.265	PBEAM	1231	2	.189	1.	2.20872	3.000	+1231
+1183	NO	1.0	53.180		18.30000			+1231	NO	1.0	.614		25.02095		+1231A
+1183A	0.	1.		.2481				+1231A	0.	1.		-1.0587			
PBEAM	1184	2	1.064	1.	18.30000		.265	PBEAM	1232	2	.280	1.	1.74280	2.000	+1232
+1184	NO	1.0	.715		5.30000			+1232	NO	1.0	.315		2.20872		+1232A
+1184A	0.	1.		.3923				+1232A	0.	1.		-.1169			
PBEAM	1185	2	.715	1.	5.30000		.265	PBEAM	1233	2	.152	1.	1.15839	.900	+1233
+1185	NO	1.0	.370		.65000			+1233	NO	1.0	.168		1.42177		+1233A
+1185A	0.	1.		.6362				+1233A	0.	1.		-.1018			
PBEAM	1186	2	22.130	1.	7.00000		.265	PBEAM	1234	2	.226	1.	.74641	.700	+1234
+1186	NO	1.0	21.000		7.00000			+1234	NO	1.0	.253		.93783		+1234A
+1186A	0.	1.		.0524				+1234A	0.	1.		-.1127			
PBEAM	1187	2	21.000	1.	7.00000		.265	PBEAM	1235	2	.125	1.	.55802	.400	+1235
+1187	NO	1.0	16.200		.95000			+1235	NO	1.0	.136		.65330		+1235A
+1187A	0.	1.		.2581				+1235A	0.	1.		-.0779			
PBEAM	1188	2	16.200	1.	.95000		.265	PBEAM	1236	2	.115	1.	.40738	.300	+1236
+1188	NO	1.0	10.900		.30000			+1236	NO	1.0	.125		.48321		+1236A
+1188A	0.	1.		.3911				+1236A	0.	1.		-.0837			
PBEAM	1189	2	10.900	1.	.30000		.265	PBEAM	1237	2	.175	1.	.28956	.150	+1237
+1189	NO	1.0	5.690		.04000			+1237	NO	1.0	.192		.34903		+1237A
+1189A	0.	1.		.6281				+1237A	0.	1.		-.0922			
PBEAM	1190	2	3.414	100.	1.1		.001	PBEAM	1238	2	.096	1.	.20137	.075	+1238
+1190	NO	1.	2.802		1.0			+1238	NO	1.0	.105		.24515		+1238A
+1190A	0.	1.		.197				+1238A	0.	1.		-.0959			
PBEAM	1191	2	18.680	1.	5.80000		.265	PBEAM	1241	2	16.200	1.	.01850	3.000	+1241
+1191	NO	1.0	18.680		5.80000			+1241	NO	1.0	53.180		.26000		+1241A
+1191A	0.	1.		.0000				+1241A	0.	1.		-1.0660			
PBEAM	1192	2	18.680	1.	5.80000		.265	PBEAM	1242	2	14.740	1.	.01400	2.000	+1242
+1192	NO	1.0	14.740		.28300			+1242	NO	1.0	16.200		.01850		+1242A
+1192A	0.	1.		.2358				+1242A	0.	1.		-.0944			
PBEAM	1193	2	14.740	1.	.28300		.265	PBEAM	1243	2	13.370	1.	.00940	.900	+1243
+1193	NO	1.0	9.990		.09600			+1243	NO	1.0	14.740		.01400		+1243A
+1193A	0.	1.		.3841				+1243A	0.	1.		-.0975			
PBEAM	1194	2	9.990	1.	.09600		.265	PBEAM	1244	2	13.370	1.	.00690	.700	+1244
+1194	NO	1.0	5.250		.01400			+1244	NO	1.0	13.370		.00940		+1244A
+1194A	0.	1.		.6220				+1244A	0.	1.		.0000			
PBEAM	1195	2	35.960	1.	5.14100		.265	PBEAM	1245	2	11.130	1.	.00450	.400	+1245
+1195	NO	1.0	33.740		5.13000			+1245	NO	1.0	13.370		.00690		+1245A
+1195A	0.	1.		.0637				+1245A	0.	1.		-.1829			
PBEAM	1196	2	33.740	1.	5.13000		.265	PBEAM	1246	2	10.280	1.	.00330	.300	+1246
+1196	NO	1.0	26.740		.22400			+1246	NO	1.0	11.130		.00450		+1246A
+1196A	0.	1.		.2315				+1246A	0.	1.		-.0794			
PBEAM	1197	2	26.740	1.	.22400		.265	PBEAM	1247	2	9.420	1.	.00210	.150	+1247
+1197	NO	1.0	18.100		.07510			+1247	NO	1.0	10.280		.00330		+1247A
+1197A	0.	1.		.3854				+1247A	0.	1.		-.0873			
PBEAM	1198	2	18.100	1.	.07510		.265	PBEAM	1248	2	8.570	1.	.00150	.075	+1248
+1198	NO	1.0	9.500		.01143			+1248	NO	1.0	9.420		.00210		+1248A
+1198A	0.	1.		.6232				+1248A	0.	1.		-.0945			
PBEAM	1199	2	0.924	100.	0.32		.001	PBEAM	1251	2	10.900	1.	.00604	3.000	+1251
+1199	NO	1.	0.7535		0.25			+1251	NO	1.0	35.740		.08200		+1251A
+1199A	0.	1.		.203				+1251A	0.	1.		-1.0652			
PBEAM	1200	2	15.070	1.	3.20000		.265	PBEAM	1252	2	9.990	1.	.00460	2.000	+1252
+1200	NO	1.0	15.070		3.20000			+1252	NO	1.0	10.900		.00604		+1252A
+1200A	0.	1.		.0000				+1252A	0.	1.		-.0871			
PBEAM	1201	2	15.070	1.	3.20000		.265	PBEAM	1253	2	9.050	1.	.00315	.900	+1253
+1201	NO	1.0	13.370		.17300			+1253	NO	1.0	9.990		.00460		+1253A
+1201A	0.	1.		.1195				+1253A	0.	1.		-.0987			
PBEAM	1202	2	13.370	1.	.17300		.265	PBEAM	1254	2	8.120	1.	.00232	.700	+1254
+1202	NO	1.0	8.120		.05600			+1254	NO	1.0	9.050		.00315		+1254A
+1202A	0.	1.		.4886				+1254A	0.	1.		-.1093			
PBEAM	1203	2	8.120	1.	.056										



+1258	NO	1.0	6.360	.00074	
+1258A	0.	1.		-.1007	
PBEAM	1261	2	5.690	1.	.00089
+1261	NO	1.0	18.490		.01210
+1261A	0.	1.		-1.0587	
PBEAM	1262	2	5.250	1.	.00068
+1262	NO	1.0	5.690		.00089
+1262A	0.	1.		-.0804	
PBEAM	1263	2	4.750	1.	.00047
+1263	NO	1.0	5.250		.00068
+1263A	0.	1.		-.1000	
PBEAM	1264	2	4.260	1.	.00035
+1264	NO	1.0	4.750		.00047
+1264A	0.	1.		-.1088	
PBEAM	1265	2	3.950	1.	.00023
+1265	NO	1.0	4.260		.00035
+1265A	0.	1.		-.0755	
PBEAM	1266	2	3.640	1.	.00017
+1266	NO	1.0	3.950		.00023
+1266A	0.	1.		-.0817	
PBEAM	1267	2	3.330	1.	.00011
+1267	NO	1.0	3.640		.00017
+1267A	0.	1.		-.0890	
PBEAM	1268	2	2.990	1.	.00008
+1268	NO	1.0	3.330		.00011
+1268A	0.	1.		-.1076	
PBEAM	2001	2	2038.9591	2.060	.001
+2001	NO	1.	3806.7001	19.530	
PBEAM	2002	2	3806.7001	19.530	.001
+2002	NO	1.	5574.4201	37.000	
PBEAM	2003	2	5574.4201	37.000	.001
+2003	NO	1.	3618.9001	18.660	
PBEAM	2004	2	3618.9001	18.660	.001
+2004	NO	1.	1663.3351	.320	
PBEAM	2005	2	1429.5691	1.290	.001
+2005	NO	1.	3214.8001	10.645	
PBEAM	2006	2	3214.8001	10.645	.001
+2006	NO	1.	4999.9951	20.000	
PBEAM	2007	2	4999.9951	20.000	.001
+2007	NO	1.	3331.6651	11.600	
PBEAM	2008	2	3331.6651	11.600	.001
+2008	NO	1.	1663.3351	3.200	
PBEAM	2009	2	1117.8811	.770	.001
+2009	NO	1.	2357.6401	.485	
PBEAM	2010	2	2357.6401	.485	.001
+2010	NO	1.	3597.3991	.200	
PBEAM	2011	2	3597.3991	.200	.001
+2011	NO	1.	2467.5301	.650	
PBEAM	2012	2	2467.5301	.650	.001
+2012	NO	1.	1337.6611	1.100	
PBEAM	2013	2	859.140	.294	.001
+2013	NO	1.	1864.8001	.247	
PBEAM	2014	2	1864.8001	.247	.001
+2014	NO	1.	2870.5271	.200	
PBEAM	2015	2	2870.5271	.200	.001
+2015	NO	1.	1965.2331	.470	
PBEAM	2016	2	1965.2331	.470	.001
+2016	NO	1.	1059.9391	.740	
PBEAM	2017	2	617.482	.108	.001
+2017	NO	1.	1398.2001	.104	
PBEAM	2018	2	1398.2001	.104	.001
+2018	NO	1.	2178.8191	.100	
PBEAM	2019	2	2178.8191	.100	.001
+2019	NO	1.	1488.0001	.120	
PBEAM	2020	2	1488.0001	.120	.001
+2020	NO	1.	797.200	.140	
PBEAM	2021	2	454.845	.100	.001
+2021	NO	1.	832.800	.110	
PBEAM	2022	2	832.800	.110	.001
+2022	NO	1.	1210.7881	.120	
PBEAM	2023	2	1210.7881	.120	.001
+2023	NO	1.	852.600	.126	
PBEAM	2024	2	852.600	.126	.001
+2024	NO	1.	494.505	.131	
PBEAM	2031	2	203.896	44.200	.001
+2031	NO	1.	173.400	22.970	
PBEAM	2032	2	173.400	22.970	.001
+2032	NO	1.	142.957	1.740	
PBEAM	2033	2	142.957	1.740	.001
+2033	NO	1.	127.400	1.339	
PBEAM	2034	2	127.400	1.339	.001
+2034	NO	1.	111.788	.937	
PBEAM	2035	2	111.788	.937	.001
+2035	NO	1.	98.900	.714	
PBEAM	2036	2	98.900	.714	.001
+2036	NO	1.	85.914	.490	
PBEAM	2037	2	85.914	.490	.001
+2037	NO	1.	73.800	.395	
PBEAM	2038	2	73.800	.395	.001
+2038	NO	1.	61.748	.300	
PBEAM	2039	2	61.748	.300	.001
+2039	NO	1.	53.600	.205	
PBEAM	2040	2	53.600	.205	.001
+2040	NO	1.	45.484	.110	
PBEAM	2041	2	557.442	61.000	.001
+2041	NO	1.	528.700	34.500	
PBEAM	2042	2	528.700	34.500	.001
+2042	NO	1.	500.000	8.000	
PBEAM	2043	2	500.000	2.100	.001
+2043	NO	1.	429.900	1.750	
PBEAM	2044	2	429.900	1.750	.001
+2044	NO	1.	359.740	1.400	
PBEAM	2045	2	359.740	1.400	.001
+2045	NO	1.	323.400	1.300	
PBEAM	2046	2	323.400	1.300	.001
+2046	NO	1.	287.053	1.200	
PBEAM	2047	2	287.053	1.200	.001
+2047	NO	1.	252.500	.860	
PBEAM	2048	2	252.500	.860	.001
+2048	NO	1.	217.882	.520	
PBEAM	2049	2	217.882	.520	.001
+2049	NO	1.	169.500	.323	
PBEAM	2050	2	169.500	.323	.001
+2050	NO	1.	121.079	.125	

+1258A					
+1261					
+1261A					
+1262					
+1262A					
+1263					
+1263A					
+1264					
+1264A					
+1265					
+1265A					
+1266					
+1266A					
+1267					
+1267A					
+1268					
+1268A					
+2001					
+2002					
+2003					
+2004					
+2005					
+2006					
+2007					
+2008					
+2009					
+2010					
+2011					
+2012					
+2013					
+2014					
+2015					
+2016					
+2017					
+2018					
+2019					
+2020					
+2021					
+2022					
+2023					
+2024					
+2031					
+2032					
+2033					
+2034					
+2035					
+2036					
+2037					
+2038					
+2039					
+2040					
+2041					
+2042					
+2043					
+2044					
+2045					
+2046					
+2047					
+2048					
+2049					
+2050					
PBEAM	2051	2	166.334	1.	.001
+2051	NO	1.	150.000	1.	
PBEAM	2052	2	150.000	1.	.001
+2052	NO	1.	133.800	1.	
PBEAM	2053	2	133.800	1.	.001
+2053	NO	1.	119.900	1.	
PBEAM	2054	2	119.900	1.	.001
+2054	NO	1.	105.994	1.	
PBEAM	2055	2	105.994	1.	.001
+2055	NO	1.	92.900	1.	
PBEAM	2056	2	92.900	1.	.001
+2056	NO	1.	79.720	1.	
PBEAM	2057	2	79.720	1.	.001
+2057	NO	1.	64.600	1.	
PBEAM	2058	2	64.600	1.	.001
+2058	NO	1.	49.451	1.	
PBEAM	3001	2	15.8	1000.	.001
+3001P	NO	1.	22.		
+3001PA	0.	1.	-.328		
PBEAM	3002	2	100.	1000.	.001
+3002P	NO	1.	22.		
+3002PA	0.	1.	1.279		
PBEAM	3003	2	.726	1000.	.001
+3003P	NO	1.			
PBEAM	3004	2	.726	1000.	.001
+3004P	NO	1.			
PBEAM	3005	2	.726	1000.	.001
+3005P	NO	1.			
PBEAM	3006	2	.726	1000.	.001
+3006P	NO	1.			
PBEAM	3007	2	.726	1000.	0.
+3007P	NO	1.			
PBEAM	3008	2	.726	1000.	15.
+3008P	NO	1.			
PBEAM	3009	2	.726	1000.	4.5
+3009P	NO	1.			
PBEAM	3131	2	23109.8	99999.	.01
+3131P	NO	1.	99999.0		
+3131PA	1.	0.	-1.249		
PBEAM	3132	2	99999.0	99999.	.01
+3132P	NO	1.	22109.8		
+3132PA	1.	0.	1.276		
PBEAM	3133	2	100.	999.	.01
+3133P	NO	1.			
PBEAM	3135	2	22.	.01	26.89
+3135P	NO	1.			
PBEAM	3136	2	22.	.01	999.
+3136P	NO	1.			
PBEAM	3137	2	22.	.01	10.
+3137P	NO	1.			
PBEAM	3138	2	100.	999.	.01
+3138P	NO	1.			
PBEAM	3140	2	100.	14.5	.001
+3140P	NO	1.			
PBEAM	3144	2	100.	.001	8.25
+3144P	NO	1.			
PBEAM	3145	2	100.	.001	8.25
+3145P	NO	1.	22.		
+3145PA			1.279		
PBEAM	3146	2	22.	.001	8.25
+3146P	NO	1.			
PBEAM	3147	2	22.	.001	8.25
+3147P	NO	1.	100.		
+3147PA			-1.279		
PBEAM	3155	2	100.	333.	.001
+3155P	NO	1.			
PBEAM	3156	2	100.	.001	.00001
+3156P	NO	1.			
PBEAM	3255	2	.035	.001	10.
+3255P	NO	1.			
PBEAM	3391	2	60.	99999.	99999.
+3391P	NO	1.			
PBEAM	3405	2	60.	99999.	99999.
+3405P	NO	1.			
PBEAM	3407	2	60.	99999.	30.11
+3407P	NO	1.			
PBEAM	3409	2	60.	99999.	99999.
+3409P	NO	1.			
PBEAM	4148	2	100.	25.	.001
+4148P	NO	1.			
PBEAM	4151	2	100.	.001	25.
+4151P	NO	1.			
PBEAM	5002	2	.920	736.000	606.050
+5002	NO	1.0		896.000	655.500
+5002A	0.	1.			
PBEAM	5051	2	4.140	6240.0003625.000	5250.
+5051	NO	1.0		8000.0004172.000	
+5051A	0.	1.			
PBEAM	5052				



PSHEAR	656	1	.0425	
PSHEAR	657	1	.04275	
PSHEAR	658	1	.08583	
PSHEAR	659	1	.090	
PSHEAR	660	1	.0635	
PSHEAR	3158	2	.275	
PSHELL	601	601	.240	
PSHELL	602	601	.296	
PSHELL	603	601	.368	
PSHELL	604	601	.378	
PSHELL	605	601	.274	
PSHELL	606	606	.247	
PSHELL	607	606	.252	
PSHELL	608	606	.341	
PSHELL	609	606	.438	
PSHELL	610	606	.410	
PSHELL	611	606	.279	
PSHELL	612	5	.252	
PSHELL	613	5	.323	
PSHELL	614	5	.394	
PSHELL	615	5	.313	
PSHELL	616	5	.234	
PSHELL	617	5	.271	
PSHELL	618	5	.275	
PSHELL	619	5	.292	
PSHELL	620	5	.271	
PSHELL	621	5	.210	
PSHELL	622	5	.267	
PSHELL	623	5	.271	
PSHELL	624	5	.253	
PSHELL	625	5	.194	
PSHELL	626	5	.255	
PSHELL	627	5	.245	
PSHELL	628	5	.245	
PSHELL	629	5	.195	
PSHELL	630	5	.187	
PSHELL	631	5	.187	
PSHELL	632	5	.226	
PSHELL	633	5	.226	
PSHELL	634	5	.191	
PSHELL	635	5	.191	
PSHELL	636	2	.214	
PSHELL	637	2	.213	
PSHELL	638	2	.214	
PSHELL	639	2	.210	
PSHELL	640	2	.195	
PSHELL	641	2	.189	
PSHELL	643	2	.205	
PSHELL	644	2	.205	
PSHELL	645	2	.200	
PSHELL	647	2	.400	
PSHELL	648	2	.400	
PSHELL	649	2	.400	
PSHELL	661	1	.219	
PSHELL	662	1	.169	
PSHELL	663	1	.116	
PSHELL	664	1	.207	
PSHELL	665	1	.158	
PSHELL	666	1	.104	
PSHELL	667	1	.190	
PSHELL	668	1	.1454	
PSHELL	669	1	.097	
PSHELL	670	1	.173	
PSHELL	671	1	.133	
PSHELL	672	1	.089	
PSHELL	673	1	.156	
PSHELL	674	1	.123	
PSHELL	675	1	.083	
PSHELL	676	1	.148	
PSHELL	677	1	.115	
PSHELL	678	1	.078	
PSHELL	679	1	.137	
PSHELL	680	1	.107	
PSHELL	681	1	.073	
PSHELL	682	1	.127	
PSHELL	683	1	.100	
PSHELL	684	1	.068	
PSHELL	701	701	.175	
PSHELL	702	702	.121	
PSHELL	703	703	.093	
PSHELL	704	704	.085	
PSHELL	705	705	.074	
PSHELL	706	706	.230	
PSHELL	707	707	.132	
PSHELL	708	708	.097	
PSHELL	709	709	.085	
PSHELL	710	710	.072	
RBAR	23	283	.407	123456
RBAR	24	281	.409	123456
RBAR	91	31	1031	123456
RBAR	92	31	2031	123456
RBAR	93	34	1034	123456
RBAR	94	34	2034	123456
RBAR	95	37	1037	123456
RBAR	96	37	2037	123456
RBAR	97	40	1040	123456
RBAR	98	40	2040	123456
RBAR	99	45	1045	123456
RBAR	100	45	2045	123456
RBAR	101	48	1048	123456
RBAR	102	48	2048	123456
RBAR	103	54	1054	123456
RBAR	104	54	2054	123456
RBAR	105	57	1057	123456
RBAR	106	57	2057	123456
RBAR	107	66	1066	123456
RBAR	108	66	2066	123456
RBAR	109	69	1069	123456
RBAR	110	69	2069	123456
RBAR	111	79	1079	123456
RBAR	112	79	2079	123456
RBAR	113	82	1082	123456
RBAR	114	82	2082	123456
RBAR	115	94	1094	123456

RBAR	116	94	2094	123456	123
RBAR	117	114	1114	123456	123
RBAR	118	114	2114	123456	123
RBAR	119	121	1121	123456	123
RBAR	120	121	2121	123456	123
RBAR	121	34	35	123456	123
RBAR	122	40	41	123456	123
RBAR	123	48	49	123456	123
RBAR	124	57	58	123456	123
RBAR	125	69	70	123456	123
RBAR	126	82	83	123456	123
RBAR	127	115	116	123456	123
RBAR	128	33	31	123456	123
RBAR	129	39	37	123456	123
RBAR	130	47	45	123456	123
RBAR	131	56	54	123456	123
RBAR	132	68	66	123456	123
RBAR	133	81	121	123456	123
RBAR	215	275	1275	123456	123
RBAR	216	275	2275	123456	123
RBAR	217	276	1276	123456	123
RBAR	218	276	2276	123456	123
RBAR	219	280	1280	123456	123
RBAR	220	280	2280	123456	123
RBAR	221	290	1290	123456	123
RBAR	222	290	2290	123456	123
RBAR	223	292	1292	123456	123
RBAR	224	292	2292	123456	123
RBAR	225	293	1293	123456	123
RBAR	226	293	2293	123456	123
RBAR	227	464	1464	123456	123
RBAR	228	464	2464	123456	123
RBAR	229	465	1465	123456	123
RBAR	230	465	2465	123456	123
RBAR	231	466	1466	123456	123
RBAR	232	466	2466	123456	123
RBAR	233	467	1467	123456	123
RBAR	234	467	2467	123456	123
RBAR	235	293	294	123456	123
RBAR	236	290	291	123456	123
RBAR	237	276	277	123456	123
RBAR	238	298	195	123456	12456
RBAR	239	284	196	123456	12456
RBAR	1311	19	1019	123456	123
RBAR	1312	19	2019	123456	123
RBAR	1313	20	1020	123456	123
RBAR	1314	20	2020	123456	123
RBAR	1315	21	1021	123456	123
RBAR	1316	21	2021	123456	123
RBAR	1317	22	1022	123456	123
RBAR	1318	22	2022	123456	123
RBAR	1319	23	1023	123456	123
RBAR	1320	23	2023	123456	123
RBAR	1321	24	1024	123456	123
RBAR	1322	24	2024	123456	123
RBAR	1323	25	1025	123456	123
RBAR	1324	25	2025	123456	123
RBAR	1325	26	1026	123456	123
RBAR	1326	26	2026	123456	123
RBAR	1327	27	1027	123456	123
RBAR	1328	27	2027	123456	123
RBAR	1329	29	1029	123456	123
RBAR	1330	29	2029	123456	123
RBAR	1331	30	1030	123456	123
RBAR	1332	30	2030	123456	123
RBAR	1333	32	1032	123456	123
RBAR	1334	32	2032	123456	123
RBAR	1335	33	1033	123456	123
RBAR	1336	33	2033	123456	123
RBAR	1337	38	1038	123456	123
RBAR	1338	38	2038	123456	123
RBAR	1339	39	1039	123456	123
RBAR	1340	39	2039	123456	123
RBAR	1341	44	1044	123456	123
RBAR	1342	44	2044	123456	123
RBAR	1343	46	1046	123456	123
RBAR	1344	46	2046	123456	123
RBAR	1345	47	1047	123456	123
RBAR	1346	47	2047	123456	123
RBAR	1347	51	1051	123456	123
RBAR	1348	51	2051	123456	123
RBAR	1349	52	1052	123456	123
RBAR	1350	52	2052	123456	123
RBAR	1351	53	1053	123456	123
RBAR	1352	53	2053	123456	123
RBAR	1353	55	1055	123456	123
RBAR	1354	55	2055	123456	123
RBAR	1355	56	1056	123456	123
RBAR	1356	56	2056	123456	123
RBAR	1357	60	1060	123456	123
RBAR	1358	60	2060	123456	123
RBAR	1359	61	1061	123456	123
RBAR	1360	61	2061	123456	123
RBAR	1361	62	1062	123456	123
RBAR	1362	62	2062	123456	123
RBAR	1363	63	1063	123456	123
RBAR	1364	63	2063	123456	123
RBAR	1365	64	1064	123456	123
RBAR	1366	64	2064	123456	123
RBAR	1367	65	1065	123456	123
RBAR	1368	65	2065	123456	123
RBAR	1369	67	1067	123456	123
RBAR	1370	67	2067	123456	123
RBAR	1371	68	1068	123456	123
RBAR	1372	68	2068	123456	123
RBAR	1373	72	1072	123456	123
RBAR	1374	72	2072	123456	123
RBAR	1375	73	1073	123456	123
RBAR	1376	73	2073	123456	123
RBAR	1377	74	1074	123456	123
RBAR	1378	74	2074	123456	123
RBAR	1379	75	1075	123456	123
RBAR	1380	75	2075	123456	123
RBAR	1381	76	1076	123456	123



RBAR	1382	76	2076	123456	123
RBAR	1383	77	1077	123456	123
RBAR	1384	77	2077	123456	123
RBAR	1385	78	1078	123456	123
RBAR	1386	78	2078	123456	123
RBAR	1387	80	1080	123456	123
RBAR	1388	80	2080	123456	123
RBAR	1389	81	1081	123456	123
RBAR	1390	81	2081	123456	123
RBAR	1391	85	1085	123456	123
RBAR	1392	85	2085	123456	123
RBAR	1393	86	1086	123456	123
RBAR	1394	86	2086	123456	123
RBAR	1395	87	1087	123456	123
RBAR	1396	87	2087	123456	123
RBAR	1397	88	1088	123456	123
RBAR	1398	88	2088	123456	123
RBAR	1407	143	1143	123456	123
RBAR	1408	143	2143	123456	123
RBAR	1409	181	1181	123456	123
RBAR	1410	181	2181	123456	123
RBAR	1411	182	1182	123456	123
RBAR	1412	182	2182	123456	123
RBAR	1413	183	1183	123456	123
RBAR	1414	183	2183	123456	123
RBAR	1415	184	1184	123456	123
RBAR	1416	184	2184	123456	123
RBAR	1417	185	1185	123456	123
RBAR	1418	185	2185	123456	123
RBAR	1419	186	1186	123456	123
RBAR	1420	186	2186	123456	123
RBAR	1421	187	1187	123456	123
RBAR	1422	187	2187	123456	123
RBAR	1423	188	1188	123456	123
RBAR	1424	188	2188	123456	123
RBAR	1425	189	1189	123456	123
RBAR	1426	189	2189	123456	123
RBAR	1427	190	1190	123456	123
RBAR	1428	190	2190	123456	123
RBAR	1429	191	1191	123456	123
RBAR	1430	191	2191	123456	123
RBAR	1431	192	1192	123456	123
RBAR	1432	192	2192	123456	123
RBAR	1433	193	1193	123456	123
RBAR	1434	193	2193	123456	123
RBAR	1435	242	1242	123456	123
RBAR	1436	242	2242	123456	123
RBAR	1437	243	1243	123456	123
RBAR	1438	243	2243	123456	123
RBAR	1439	244	1244	123456	123
RBAR	1440	244	2244	123456	123
RBAR	1441	245	1245	123456	123
RBAR	1442	245	2245	123456	123
RBAR	1451	1	1001	123456	123
RBAR	1452	1	2001	123456	123
RBAR	1453	2	1002	123456	123
RBAR	1454	2	2002	123456	123
RBAR	1455	3	1003	123456	123
RBAR	1456	3	2003	123456	123
RBAR	1457	4	1004	123456	123
RBAR	1458	4	2004	123456	123
RBAR	1459	5	1005	123456	123
RBAR	1460	5	2005	123456	123
RBAR	1461	6	1006	123456	123
RBAR	1462	6	2006	123456	123
RBAR	1463	7	1007	123456	123
RBAR	1464	7	2007	123456	123
RBAR	1465	8	1008	123456	123
RBAR	1466	8	2008	123456	123
RBAR	1467	10	1010	123456	123
RBAR	1468	10	2010	123456	123
RBAR	1469	12	1012	123456	123
RBAR	1470	12	2012	123456	123
RBAR	1471	14	1014	123456	123
RBAR	1472	14	2014	123456	123
RBAR	1473	16	1016	123456	123
RBAR	1474	16	2016	123456	123
RBAR	1475	18	1018	123456	123
RBAR	1476	18	2018	123456	123
RBAR	1477	173	1173	123456	123
RBAR	1478	173	2173	123456	123
RBAR	1479	174	1174	123456	123
RBAR	1480	174	2174	123456	123
RBAR	1481	175	1175	123456	123
RBAR	1482	175	2175	123456	123
RBAR	1483	176	1176	123456	123
RBAR	1484	176	2176	123456	123
RBAR	1485	177	1177	123456	123
RBAR	1486	177	2177	123456	123
RBAR	1487	178	1178	123456	123
RBAR	1488	178	2178	123456	123
RBAR	1489	179	1179	123456	123
RBAR	1490	179	2179	123456	123
RBAR	1491	180	1180	123456	123
RBAR	1492	180	2180	123456	123
RBAR	1493	194	1194	123456	123
RBAR	1494	194	2194	123456	123
RBAR	1501	96	1096	123456	123
RBAR	1502	96	2096	123456	123
RBAR	1503	97	1097	123456	123
RBAR	1504	97	2097	123456	123
RBAR	1505	98	1098	123456	123
RBAR	1506	98	2098	123456	123
RBAR	1507	99	1099	123456	123
RBAR	1508	99	2099	123456	123
RBAR	1509	100	1100	123456	123
RBAR	1510	100	2100	123456	123
RBAR	1511	101	1101	123456	123
RBAR	1512	101	2101	123456	123
RBAR	1513	102	1102	123456	123
RBAR	1514	102	2102	123456	123
RBAR	1515	103	1103	123456	123
RBAR	1516	103	2103	123456	123
RBAR	1517	104	1104	123456	123

RBAR	1518	104	2104	123456	123
RBAR	1519	105	1105	123456	123
RBAR	1520	105	2105	123456	123
RBAR	1521	106	1106	123456	123
RBAR	1522	106	2106	123456	123
RBAR	1523	107	1107	123456	123
RBAR	1524	107	2107	123456	123
RBAR	1525	108	1108	123456	123
RBAR	1526	108	2108	123456	123
RBAR	1527	109	1109	123456	123
RBAR	1528	109	2109	123456	123
RBAR	1529	110	1110	123456	123
RBAR	1530	110	2110	123456	123
RBAR	1531	111	1111	123456	123
RBAR	1532	111	2111	123456	123
RBAR	1533	112	1112	123456	123
RBAR	1534	112	2112	123456	123
RBAR	1535	113	1113	123456	123
RBAR	1536	113	2113	123456	123
RBAR	1537	125	1125	123456	123
RBAR	1538	125	2125	123456	123
RBAR	1539	126	1126	123456	123
RBAR	1540	126	2126	123456	123
RBAR	1541	127	1127	123456	123
RBAR	1542	127	2127	123456	123
RBAR	1543	128	1128	123456	123
RBAR	1544	128	2128	123456	123
RBAR	1545	129	1129	123456	123
RBAR	1546	129	2129	123456	123
RBAR	1547	130	1130	123456	123
RBAR	1548	130	2130	123456	123
RBAR	1549	131	1131	123456	123
RBAR	1550	131	2131	123456	123
RBAR	1551	132	1132	123456	123
RBAR	1552	132	2132	123456	123
RBAR	1553	133	1133	123456	123
RBAR	1554	133	2133	123456	123
RBAR	1555	134	1134	123456	123
RBAR	1556	134	2134	123456	123
RBAR	1557	135	1135	123456	123
RBAR	1558	135	2135	123456	123
RBAR	1559	136	1136	123456	123
RBAR	1560	136	2136	123456	123
RBAR	1561	137	1137	123456	123
RBAR	1562	137	2137	123456	123
RBAR	1563	138	1138	123456	123
RBAR	1564	138	2138	123456	123
RBAR	1565	139	1139	123456	123
RBAR	1566	139	2139	123456	123
RBAR	1567	140	1140	123456	123
RBAR	1568	140	2140	123456	123
RBAR	1569	141	1141	123456	123
RBAR	1570	141	2141	123456	123
RBAR	1571	142	1142	123456	123
RBAR	1572	142	2142	123456	123
RBAR	2235	501	1501	123456	123
RBAR	2236	501	2501	123456	123
RBAR	2237	502	1502	123456	123
RBAR	2238	502	2502	123456	123
RBAR	2239	503	1503	123456	123
RBAR	2240	503	2503	123456	123
RBAR	2241	504	1504	123456	123
RBAR	2242	504	2504	123456	123
RBAR	2243	505	1505	123456	123
RBAR	2244	505	2505	123456	123
RBAR	2245	506	1506	123456	123
RBAR	2246	506	2506	123456	123
RBAR	2247	507	1507	123456	123
RBAR	2248	507	2507	123456	123
RBAR	2249	508	1508	123456	123
RBAR	2250	508	2508	123456	123
RBAR	2251	509	1509	123456	123
RBAR	2252	509	2509	123456	123
RBAR	2253	510	1510	123456	123
RBAR	2254	510	2510	123456	123
RBAR	2255	511	1511	123456	123
RBAR	2256	511	2511	123456	123
RBAR	2257	512	1512	123456	123
RBAR	2258	512	2512	123456	123
RBAR	2259	513	1513	123456	123
RBAR	2260	513	2513	123456	123
RBAR	2261	514	1514	123456	123
RBAR	2262	514	2514	123456	123
RBAR	2263	515	1515	123456	123
RBAR	2264	515	2515	123456	123
RBAR	2265	516	1516	123456	123
RBAR	2266	516	2516	123456	123
RBAR	2267	517	1517	123456	123
RBAR	2268	517	2517	123456	123
RBAR	2269	518	1518	123456	123
RBAR	2270	518	2518	123456	123
RBAR	2271	519	1519	123456	123
RBAR	2272	519	2519	123456	123
RBAR	2273	520	1520	123456	123
RBAR	2274	520	2520	123456	123
RBAR	2275	521	1521	123456	123
RBAR	2276	521	2521	123456	123
RBAR	2277	522	1522	123456	123
RBAR	2278	522	2522	123456	123
RBAR	2279	523	1523	123456	123
RBAR	2280	523	2523	123456	123
RBAR	2281	524	1524	123456	123
RBAR	2282	524	2524	123456	123
RBAR	2283				



RBAR	3169	3084	3094	123456		123	
RBAR	3170	3077	3095	123456		123	
RBAR	3171	3078	3096	123456		123	
RBAR	3172	3082	3097	123456		123	
RBAR	3173	3084	3098	123456		123	
RBAR	3419	3203	182	123456		123	
RBAR	3420	3203	183	123456		123	
RBAR	3421	3205	185	123456		123	
RBAR	3422	3205	186	123456		123	
RBAR	3423	3201	3204	123456		5	
RBAR	3424	3204	3207	123456		3	
RBAR	3425	3208	3212	123456		3	
RBAR	3426	3208	3209	123456		123	
SPCI	3	1	359	360	361	362	367
SPCI	3	1	368	369	370	371	381
SPCI	3	1	383	384	385	386	389
SPCI	3	1	390	391	392	393	408
SPCI	3	156	36	42	50	437	431
SPCI	3	156	71	84	298	286	117
SPCI	3	156	163	164	153	154	155
SPCI	3	156	267	268	458	459	156
SPCI	3	156	283	284	282	281	405
SPCI	4	234	36	42	50	437	431
SPCI	4	234	71	84	298	286	117
SPCI	4	234	163	164	153	154	155
SPCI	4	234	267	268	458	459	156
SPCI	4	234	283	284	282	281	405
SPCI	5	4	3009				
SPCI	5	4	3077				
SPCI	5	456	251	256	261	262	266
SPCI	5	456	1001	1002	1003	1004	1005
SPCI	5	456	1007	1008	1010	1012	1014
SPCI	5	456	1018	1173	1174	1175	1176
SPCI	5	456	1019	THRU	1027		1177
SPCI	5	456	1029	1030	1032	1033	1038
SPCI	5	456	1031	1034	1037	1040	1045
SPCI	5	456	1044	1046	1047	1051	1052
SPCI	5	456	1054	1057	1066	1069	1079
SPCI	5	456	1055	1056	1060	1061	1062
SPCI	5	456	1064	1065	1067	1068	1072
SPCI	5	456	1074	1075	1076	1077	1078
SPCI	5	456	1079	1114	1275	1276	1280
SPCI	5	456	1081	1085	1086	1087	1088
SPCI	5	456	1094	1114	1121		
SPCI	5	456	1096	1097	1098	1099	1100
SPCI	5	456	1102	1103	1104	1105	1106
SPCI	5	456	1108	1109	1110	1111	1112

SPCI	5	456	1125	1126	1127		
SPCI	5	456	1128	1129	1130	1131	1132
SPCI	5	456	1134	1135	1136	1137	1138
SPCI	5	456	1140	1141	1142		1139
SPCI	5	456	1143				
SPCI	5	456	1178	1179	1180	1194	
SPCI	5	456	1181	THRU	1193		
SPCI	5	456	1233	2233			
SPCI	5	456	1242	1243	1244	1245	
SPCI	5	456	1251	THRU	1266		
SPCI	5	456	1292	1293	1464	1465	1466
SPCI	5	456	1501	THRU	1526		1467
SPCI	5	456	2001	2002	2003	2004	2005
SPCI	5	456	2007	2008	2010	2012	2016
SPCI	5	456	2018	2173	2174	2175	2176
SPCI	5	456	2019	THRU	2027		2177
SPCI	5	456	2029	2030	2032	2033	2038
SPCI	5	456	2031	2034	2037	2040	2045
SPCI	5	456	2044	2046	2047	2051	2052
SPCI	5	456	2054	2057	2066	2069	2079
SPCI	5	456	2055	2056	2060	2061	2062
SPCI	5	456	2064	2065	2067	2068	2072
SPCI	5	456	2074	2075	2076	2077	2079
SPCI	5	456	2079	2114	2275	2276	2280
SPCI	5	456	2081	2085	2086	2087	2088
SPCI	5	456	2094	2114	2121		2101
SPCI	5	456	2096	2097	2098	2099	2100
SPCI	5	456	2102	2103	2104	2105	2106
SPCI	5	456	2108	2109	2110	2111	2112
SPCI	5	456	2125	2126	2127		2113
SPCI	5	456	2128	2129	2130	2131	2132
SPCI	5	456	2134	2135	2136	2137	2138
SPCI	5	456	2140	2141	2142		2139
SPCI	5	456	2143				
SPCI	5	456	2178	2179	2180	2194	
SPCI	5	456	2181	THRU	2193		
SPCI	5	456	2242	2243	2244	2245	
SPCI	5	456	2251	THRU	2266		
SPCI	5	456	2292	2293	2464	2465	2466
SPCI	5	456	2501	THRU	2526		2467
SPCI	5	456	3091	3092	3093	3094	
SPCI	5	456	3095	3096	3097	3098	
SPCI	5	123456	701	702	703		
SPCADD	1	3	5				
SPCADD	2	4	5				
SUPPORT	42	156					
ENDDATA							